Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	
Lifeline and Link-Up	)	WC Docket No. 03-109

COMMENTS
of
N.E. COLORADO CELLULAR, INC. d/b/a VIAERO WIRELESS

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SUMMARY

The Commission is at an important crossroads as it continues its work to carry out transformative universal service reform. The driving impetus of the Commission's reform efforts is the national policy objective to achieve the ubiquitous deployment of broadband, including mobile wireless broadband networks.

The Commission's efforts come at a time that marks the ascendency of mobile broadband: Consumers and businesses across the country increasingly demand and rely upon mobile broadband to meet a wide variety of communications needs. The Commission thus finds itself at a juncture at which it must determine the policy choices that will best meet this growing demand for mobile broadband services, and that will successfully promote the deployment of mobile broadband networks in rural America.

The Wireline Proposals (submitted to the Commission by price cap carriers and by rate-of-return rural local exchange carriers) and the State Member Plan (submitted by the State Members of the Federal-State Joint Board on Universal Service) would steer the Commission down the wrong road. As Viaero Wireless explains in its Comments, the budget proposals advanced in these plans would increase support amounts significantly for wireline carriers while reducing annual support for mobile broadband to $300 million (the wireline carriers' proposal) or $500 million (the State Member Plan).

The jointly-submitted wireline plan proposes to phase in the $300 million in mobile broadband support if necessary to keep overall Connect America Fund support within the budget cap. In addition, a proposal made by price cap carriers would provide ap-

proximately $42 billion in support to wireline carriers over a ten-year period, thus effectively locking out mobile wireless broadband providers from a substantial portion of CAF funding.

Another proposal to lock in support for wireline incumbents is the suggestion that incumbent LECs should have a right of first refusal, to accept or decline CAF funding. Such a mechanism would not be competitively neutral, would further entrench the incumbent carriers' inefficient use of universal service support, and cannot be justified by claims that such an ROFR option would be due consideration for the incumbents' subjection to carrier-of-last-resort requirements.

The Commission should reject these budgetary and related proposals advanced in the Wireline Proposals and the State Member Plan because they would have the effect of consolidating and extending the hold over universal service funding that wireline incumbents have long enjoyed. Maintaining and extending this *status quo* is not a path for advancing the goal of ubiquitous mobile broadband deployment established by President Obama. Instead, the Commission should transform its universal service rules and mechanisms in three phases:

- In the *first phase*, the Commission should take several steps to reduce excessive levels of funding provided to wireline carriers, such as decreasing High-Cost Loop Support percentages for incumbent local exchange carriers operating 200,000 or fewer loops, capping total high-cost support on a per-line basis, eliminating the safety net additive, and rationalizing local switching support. These steps would to stabilize and reduce the overall size of the high-cost fund.

- In the *second phase*, the Commission should launch a rulemaking for the purpose of evaluating and selecting a forward-looking economic cost model for use in disbursing universal service funding. The Commission also should establish separate wireline and mobile wireless broadband funds, using a forward-looking cost model, and with the budgets for the two funds set evenly and with the provision of a *sufficient* level of funding for mobile broadband. In addition, the Commission should ramp down implicit support mechanisms, and rapidly move toward a bill-and-keep intercarrier compensation mechanism.

The Commission also should also reject the approach taken in the RLEC Plan to maintain the *status quo* regarding the use of rate-of-return mechanisms to disburse support to rural incumbents, and act to eliminate any continued use of rate-of-return and embedded cost mechanisms. Although Viaero Wireless favors capping high-cost support on a per-line basis in the short term, it opposes any ongoing cap for the Commission's new funding programs, because such caps would risk making these mechanisms insufficient to facilitate the deployment of advanced broadband services throughout rural America.

- In the *third phase*, the Commission would complete its selection of a cost model and would begin taking the steps necessary to phase in the model over a five-year period.

Finally, the Commission should affirm that the provision of universal service funding is a Title II program, and that any carrier seeking support must provide supported telecommunications services as a Title II telecommunications carrier.

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COMMENTS
of
N.E. COLORADO CELLULAR, INC. d/b/a VIAERO WIRELESS

N.E. Colorado Cellular, Inc., d/b/a Viaero Wireless, ("Viaero Wireless"), by counsel, hereby submits these Comments, pursuant to the Public Notice issued by the Wireline Competition Bureau in the above-captioned dockets.[1] The *Public Notice* seeks

[1] *Further Inquiry into Certain Issues in the Universal Service-Intercarrier Compensation Transformation Proceeding*, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, DA 11-1348 (rel. Aug. 3, 2011), 76 Fed. Reg. 49401 (Aug. 10, 2011) ("*Public Notice*" or "*Notice*"), Erratum (rel. Aug. 8, 2011). The due date for comments in response to the *Public Notice* is August 24, 2011. *See Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our*

comment on the America's Broadband Connectivity Plan ("ABC Plan"),[2] the RLEC Plan,[3] the Joint Letter,[4] the State Member Plan,[5] as well as certain other proposals. The ABC Plan, RLEC Plan, and Joint Letter are referred to collectively in these Comments as the "Wireline Proposals".

I. INTRODUCTION.

Mobile broadband is poised to play a dominant role in the future of communications.[6] A major task facing the Commission, as it continues its efforts to fashion universal

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Future, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Lifeline and Link-Up*, WC Docket No. 03-109, Order, DA 11-1374 (rel. Aug. 8, 2011) (declining to extend the deadlines for comments and reply comments).

[2] Letter from Robert W. Quinn, Jr., AT&T, Steve Davis, CenturyLink, Michael T. Skrivan, FairPoint, Kathleen Q. Abernathy, Frontier, Kathleen Grillo, Verizon, and Michael D. Rhoda, Windstream ("Price Cap Carriers"), to Marlene H. Dortch, FCC, WC Docket No. 10-90 *et al*. (filed July 29, 2011).

[3] Comments of National Exchange Carrier Association, Inc., National Telecommunications Cooperative Association ("NTCA"), Organization for the Promotion and Advancement of Small Telecommunications Companies ("OPASTCO"), and Western Telecommunications Alliance ("WTA") (the "Joint Rural Associations"), WC Docket No. 10-90 *et al*. (filed Apr. 18, 2011) ("RLEC Plan").

[4] Letter from Walter B. McCormick, Jr., United States Telecom Association, Robert W. Quinn, Jr., AT&T, Melissa Newman, CenturyLink, Michael T. Skrivan, FairPoint, Kathleen Q. Abernathy, Frontier, Kathleen Grillo, Verizon, Michael D. Rhoda, Windstream, Shirley Bloomfield, NTCA, John Rose, OPASTCO, and Kelly Worthington, WTA, to Chairman Julius Genachowski, Commissioner Michael J. Copps, Commissioner Robert M. McDowell, Commissioner Mignon Clyburn, FCC, WC Docket No. 10-90 *et al*. (filed July 29, 2011) ("Joint Letter").

[5] Comments by the State Members of the Federal-State Joint Board on Universal Service ("State Members"), WC Docket No. 10-90 *et al*. (filed May 2, 2011) ("State Member Plan").

[6] The National Broadband Plan has foreseen that mobile broadband represents the Nation's next great opportunity:

> Mobile broadband is growing at unprecedented rates. From smartphones to app stores to e-book readers to remote patient monitoring to tracking goods in transit and more, mobile services and technologies are driving innovation and playing an increasingly important role in our lives and our economy. Mobile broadband is the next great challenge and opportunity for the United States.

service and intercarrier compensation ("ICC") reform, is to ensure that consumers and businesses in rural America have sufficient access to mobile broadband services. The current challenges facing the U.S. economy serve as a stark reminder that capitalizing on technological advances such as mobile broadband can play a key role in fostering investment, stimulating jobs, and buoying economic growth. But the realization of these benefits in rural and high-cost areas is linked to the Commission's development and implementation of policies designed to ensure sufficient support for mobile broadband deployment. President Obama has underscored the importance of this link, announcing earlier this year the government's commitment "to invest in the next generation of high-speed wireless coverage for 98 percent of Americans."[7]

The universal service funding mechanisms advanced in the Wireline Proposals and the State Member Plan are an unnecessary and unwarranted roadblock in the path to effectively supporting mobile broadband deployment in rural America. The ABC Plan proposes that $2.2 billion per year be provided as support to large, price cap carriers,[8] an increase of over $1 billion annually compared to current funding levels, despite the fact

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Omnibus Broadband Initiative, FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (Mar. 16, 2010) ("Broadband Plan" of "NBP"), at 9, *quoted in* MTPCS, LLC, d/b/a Cellular One and Viaero Wireless Comments, WC Docket No. 10-90 *et al*. (filed Apr. 18, 2011) ("April 18 Joint Comments"), at 2. In a recent example of the growing marketplace focus on mobile broadband, "Google Inc. [has] forged a $12.5 billion deal to buy Motorola's phone business . . . ." Amir Efrati & Spencer E. Ante, *Google's $12.5 Billion Gamble*, WALL ST. J., Aug. 16, 2011, at A1. "[A]s phones and other devices become the central point of computing for consumers and businesses, Google is trying to position itself to provide" various mobile services sought by consumers. *Id*. at A4.

[7] President Barack Obama, Remarks by the President on the National Wireless Initiative in Marquette, Mich., at 8 (Feb. 10, 2011) (unpaginated transcript).

[8] ABC Plan, Attach. 1, at 2.

that these are some of the most profitable and cash-rich companies in the telecommunications industry.[9]

The Joint Letter proposes a rate-of-return carrier fund of between $2 billion and $2.3 billion through 2017.[10] Both the ABC Plan and the Joint Letter advocate limiting mobile broadband funding to not more than $300 million annually.[11] The State Member Plan proposes a Mobility Fund capped at $500 million per year. Under the State Member Plan, the funding would start at $50 million per year and increase to an annual level of $500 million in the sixth year.[12]

In light of these proposals—which seem intent upon ignoring the importance of mobile broadband and dispensing with the need to provide sufficient universal service support for rural broadband deployment—Viaero Wireless is encouraged by the Commission's decision to focus in the *Public Notice* on the issue of providing separate universal service funding for fixed and mobile broadband.[13] Separate ***and sufficient*** funding for mobile broadband deployment would help to seize the opportunity described in the Broadband Plan: Designing Connect America Fund ("CAF") support mechanisms that establish a reasonable and equitable division of support between wireline and mobile wireless broadband would be consistent with the Commission's principle of competitive

[9] Exhibit 1 sets forth the amount of high-cost support that the large price cap carriers received in 2010, along with the dividends they paid out to their shareholders.

[10] Joint Letter at 2.

[11] *See id*.; ABC Plan, Attach. 1, at 2, 8. The ABC Plan would establish a separate "Advanced Mobility/Satellite Fund" and would require mobile wireless broadband carriers and satellite service providers to share the capped $300 million fund. ABC Plan, Attach. 1, at 8.

[12] State Member Plan at 68.

[13] *See Notice* at 2.

neutrality[14] and would serve consumers in rural America by facilitating their access to mobile broadband services.

Such funding mechanisms would be responsive to consumers' growing preference for wireless services. The recent CDC Wireless Substitution Report, for example, indicates that, as of the end of 2010, 29.7 percent of homes were wireless-only and 15.7 percent of homes received all or almost all calls on wireless phones despite having a landline device. More than half (53.5 percent) of adults between the ages of 25 and 29 live in households with only wireless phones.[15] Just this month, Deloitte published a report confirming the importance of mobile broadband to low-income households and estimating that every million dollars of new investment in mobile broadband would yield 15 jobs.[16] In other words, a $1 billion high-cost fund investment in mobile broadband each year would yield 15,000 new jobs.

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[14] The Commission has established the principle that "universal service mechanisms and rules" should "neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology or another." *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 8801 (para. 47) (1997) ("*USF First Report and Order*") (subsequent history omitted). *See Connect America Fund,* WC Docket No. 10-90, *A National Broadband Plan for Our Future,* GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers,* WC Docket No. 07-135, *High-Cost Universal Service Support,* WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime,* CC Docket No. 01-92, *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, *Lifeline and Link-Up,* WC Docket No. 03-109, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd 4554, 4585 (para. 82) (2011) ("*CAF NPRM*").

[15] Stephen J. Blumberg & Julian V. Luke, "Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July-December 2010, National Center for Health Statistics, Centers for Disease Control and Prevention (rel. June 8, 2011) ("CDC Wireless Substitution Report"), at 1-2. The ABC Plan itself acknowledges this steadily increasing consumer preference, indicating that "it is now clear that a significant shift away from wireline and toward wireless voice services has occurred." ABC Plan, Attach. 4 (Jerry Hausman, "Consumer Benefits of Low Intercarrier Compensation Rates"), at 7.

[16] Deloitte Consulting LLP, *The Impact of 4G Technology on Commercial Interactions, Economic Growth and U.S. Competitiveness* (Aug. 2011), at 7, accessed at http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/TMT_us_tmt/us_tmt_impactof4g_081911.pdf .

The challenge before the Commission, as it confronts universal service reform, is whether to wed its CAF mechanisms to the past, or whether to move forward with new policies and funding mechanisms that recognize the importance of mobile broadband and sufficiently support its deployment in rural America. The Wireline Proposals and the State Member Plan cling to the *status quo*, putting forward proposed funding mechanisms that not only give priority to the entrenched operations of price cap and rate-of-return incumbent local exchange carriers ("LECs"), but promises to reward past and future inefficient investments made by LECs. Viaero Wireless urges the Commission to plot a different course, which can be executed in three phases:

❶ Implement many of the reforms proposed in the *CAF NPRM*, to realize savings and to establish definitive notice to industry stakeholders and other interested parties that more extensive reform measures will be implemented, including the use of forward-looking economic cost models for the disbursement of universal service support.

❷ Evaluate and select forward-looking cost models through the initiation of a further rulemaking proceeding as soon as practicable.

❸ Begin the phase-in of the selected forward-looking cost model within five years following initiation of the rulemaking proceeding.

Taking these steps will provide *all* carriers the proper economic signals as they evaluate their role in rural telecommunications markets, while also providing them the time to make the necessary operational changes. As discussed in the following sections, the Commission—in the short-term first phase—could take several steps designed to reduce the level of high-cost disbursements without jeopardizing the availability of a suffi-

cient level of support while the Commission prepares to take further actions to transform its universal service rules and mechanisms.

In the medium-term second phase, the Commission could begin its in depth examination of forward-looking cost models for use in dispensing support from new funding mechanisms. The Commission should initiate a rulemaking that would focus on cost models that have recently been submitted for the Commission's consideration, provide opportunity for other proposals, carry out a targeting inquiry regarding the criteria for electing a cost model for use in disbursing universal service support, and select a model based on the application of these criteria.

These Commission actions would set the stage for the final phase of the transformation of its universal service rules, during which the Commission would implement rules for phasing in the use of its selected cost model.

II. UNIVERSAL SERVICE REFORM.

A. The Commission Should Take Several Immediate Actions to Stabilize the Fund and Prepare the Industry for Long-Term Reform.

In the short-term first phase of universal service reform, the Commission can take several actions that will advance universal service objectives. It can implement changes proposed in the *CAF NPRM* which would reduce excessive funding to wireline carriers, such as decreasing High-Cost Loop Support percentages for incumbent LECs operating 200,000 or fewer loops, capping total high-cost support on a per-line basis, eliminating the safety net additive, and rationalizing local switching support.[17] These actions would

[17] *See CAF NPRM*, 26 FCC Rcd at 4615-23 (paras. 174-193).

stabilize and reduce the size of the high-cost fund for wireline carriers, and by extension, the mobile wireless industry as well, due to the operation of the identical support rule.

In the medium-term second phase, in addition to implementing a rulemaking to focus on the adoption of a forward-looking cost model, the Commission should establish separate funds for fixed broadband and mobile broadband, each with sufficient levels of support to meet the congressional goals set forth in Section 254 of the Act. In connection with its cost model rulemaking, the Commission should establish a working group or assign the Federal-State Joint Board on Universal Service with the task of developing and recommending appropriate cost models (in addition to those models that have previously been submitted for the Commission's consideration).

The Commission should also ramp down implicit support mechanisms to the greatest extent possible. Previous reductions in implicit support have redounded to consumers' benefit, at a level much greater than the increase in the amount that consumers have had to contribute to explicit support mechanisms.[18] Moving rapidly toward bill-and-keep will benefit consumers and condition all carriers to prepare for the reality of our circuit switched networks changing out to all IP networks over the next decade.

Finally, the Commission should affirm that universal service is a Title II program and that any carrier seeking support must do so as a Title II telecommunications carrier. If a carrier wishes to provide advanced broadband services pursuant to Title I of the Act and to be regulated as such, it is free to do so, but it cannot be designated as an eligible telecommunications carrier under Section 214 of the Act. By immediately affirming this

[18] *See, e.g.*, ABC Plan, Attach. 4.

principle, the Commission will put all carriers on notice that participation in the high-cost support mechanism is voluntary, and that a carrier expecting to receive the benefits of support must be prepared to shoulder the obligations set forth under Title II of the Act and the Commission's corresponding regulations.

Below, we discuss medium and longer term actions the Commission should commit to doing in the orders it adopts in this proceeding.

B. Separate Support for Mobile Broadband [PN § I.A.]

1. The Importance of Separate Support Funds.

The growing importance of mobile broadband services, which likely will continue to increase in the future, warrants revamped universal service funding mechanisms that include a special focus on mobile broadband. As discussed above, the ABC Plan and the State Member Plan both would establish a separate fund for mobile broadband services, but neither proposal would dedicate sufficient support for the separate fund to ensure that all consumers and businesses in rural areas would be provided with access to high-quality advanced mobile broadband networks. Such an outcome would not be consistent with requirements enacted in the Communications Act of 1934 ("Act").[19]

A separate fund for mobile broadband—with sufficient funding levels—is a critical component of the Commission's universal service reforms because rural consumers should have access to robust broadband networks that facilitate the use of rapidly evolving mobile devices and applications. The national economy would benefit significantly from the ubiquitous deployment of advanced mobile broadband infrastructure, and a sep-

[19] Section 254(b)(3) of the Act, 47 U.S.C. § 254(b)(3), requires the Commission to take steps to ensure that rural citizens have access to advanced services that are reasonably comparable to those available in urban areas.

arate mobility fund dedicated to this deployment goal is the best way to achieve this deployment.

On the other hand, a single fund, with support limited to a single carrier in a service area, would not be adequate to ensure effective and sufficient deployment of mobile broadband networks. As Viaero Wireless has previously explained, supporting more than one carrier in each service area is a much better option:

> Making CAF support available to more than one service provider would better meet consumer and business needs by providing more options in local markets, and the possibility of even more options in the future. Many businesses and consumers rely on the availability of both fixed and mobile telecommunications and Internet access options . . . .[20]

In addition, limiting support to one carrier would turn rural America into a checkerboard of areas funded by fixed and wireless technologies. It would be inefficient to deploy these technologies and, ultimately, the checkerboard deployment would fail to provide rural consumers with services comparable to those available in urban areas.

2. Establishing Budgets for Separate Funding Components.

The funding budgets proposed in the Wireline Proposals and the State Member Plan do not warrant serious consideration by the Commission because they evidence a sweeping disregard for the importance of funding mobile broadband deployment, which can be explained only by the apparent concern of the proponents of these proposals that the current imbalance in high-cost support distribution[21]—which favors wireline incum-

[20] April 18 Joint Comments at 13-14.

[21] According to the most recent data available (for 2008), revenues of wireless service providers amounted to 39.7 percent of the Universal Service Fund ("USF") contribution base, compared to 24.3 percent for fixed local service providers. Universal Service Monitoring Report, CC Docket No. 98-202 (2010) ("*Monitoring Report*"), Table 1.8 ("Revenues by Type of Carrier: 2008"). In contrast, in 2008, incumbent LECs received 70.9 percent of high-cost support mechanism pay-

bents—could be eroded by CAF mechanisms that recognize the growing consumer demand for mobile broadband services.[22]

As described above, the proposals would allocate between $4.2 and $4.5 billion in annual funding for price cap incumbent LECs and rate-of-return carriers, while proposing up to $300 million (or up to $500 million) in annual funding for mobile broadband.[23] This represents a $1 billion increase in funding to fixed wireline technology and a decrease of approximately $1 billion in funding to mobile broadband technology. Proposals to lock in $4.2 to $4.5 billion in CAF support to wireline technology, to the near exclusion of mobile wireless technology, lack any rational basis, particularly in light of the documented increase in consumer demand for wireless services.[24] Even worse, the ABC Plan acknowledges that its proponents are likely to exercise proposed right-of-first-

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ments, while competitive eligible telecommunications carriers ("ETCs") received 29.1 percent of high-cost fund payments. *Id*., Table 3.2 ("High-Cost Support Fund Payment History–ILECs and CETCs"). The percentage of high-cost disbursements received by competitive ETCs currently is likely even lower, compared to 2008, because both Sprint and Verizon have agreed to phase down their receipt of high-cost funding. *See CAF NPRM*, 26 FCC Rcd at 4639 (para. 244); *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Request for Review of Decision of Universal Service Administrator by Corr Wireless Communications, LLC*, WC Docket No. 05-337, CC Docket No. 96-45, Order, 25 FCC Rcd 18146 (2010); *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Request for Review of Decision of Universal Service Administrator by Corr Wireless Communications, LLC*, WC Docket No. 05-337, CC Docket No. 96-45, Order and Notice of Proposed Rulemaking, 25 FCC Rcd 12854 (2010).

[22] Funding budget issues are also discussed in Section II.D., *infra*.

[23] *See* ABC Plan, Attach. 1, at 2, 8; Joint Letter at 2. The State Member Plan has proposed up to $500 million in annual funding for mobile broadband. *See* State Member Plan at 68.

[24] *See* CDC Wireless Substitution Report at 3 (indicating that adults living in poverty (42.8 percent) and adults living near poverty (35.2 percent) were more likely than higher income adults (24.1 percent) to be living in households with only wireless telephones).

refusal ("ROFR") options in 82 percent of their rural coverage areas,[25] limiting consumers' ability to choose the service that best suits their needs in many rural areas.

The budgets for the fixed broadband and mobile broadband funds should be set evenly, to encourage the development of new technologies as well as to take account of the growing demand for mobile broadband services. Such an approach is particularly warranted, in light of the fact that the number of wireline access lines and telephone plant has been decreasing in recent years and there has not been any corresponding reduction in high-cost support made available to wireline carriers.[26] Moreover, the wireless industry contributes over 40 percent of the total amount of universal service contributions. Given this level of support for universal service provided by wireless carriers, there is no reasonable policy basis for limiting disbursements to wireless carriers from the new CAF funding mechanisms to $300 million (the Wireline Proposals) or $500 million (the State Member Plan).

A further problem with the ABC Plan is that it would provide approximately $42 billion in support to price cap carriers over a ten-year period.[27] Such an approach, which would essentially bar mobile broadband providers from access to a large portion of CAF funding for a decade, would not be in keeping with the Commission's core principle of competitive and technological neutrality. In addition, AT&T has proposed that the Commission should require states (as a condition of CAF funding) to eliminate carrier-of-last-

[25] ABC Plan, Attach. 1, at 6, n.7.

[26] *See*, *e.g.*, *CAF NPRM*, 26 FCC Rcd at 4611-12 (para. 166) (Figure 7); 4616-18 (para. 178) (Figure 10).

[27] The ABC Plan indicates that "[b]roadband providers that elect to receive support from the CAF will receive a fixed level of support for a term of ten years from the date on which support is awarded." ABC Plan, Attach 1, at 2.

resort ("COLR") obligations that require incumbent carriers to provide telephone service and long distance service.[28] Taking such a step would not serve the interests of consumers in rural areas.

3. Revising the Budgets Over Time.

The *Public Notice* asks how funding budgets should be revised over time.[29] Viaero Wireless suggests that an important aspect of the new CAF funding mechanisms, in addition to establishing separate funds for wireline and mobile wireless broadband, should be rules and methodologies that enable the transfer of support between the two funds in response to consumer demand.

Such a transfer mechanism would be competitively and technologically neutral, because the disbursement of ongoing CAF support would be driven, in part, by consumer demand for fixed or mobile broadband services. The transfer mechanism would also help to ensure that broadband services available in rural areas are comparable to those available in urban areas.

C. Right of First Refusal [PN § I.C.2.]

The *Public Notice* seeks comment on a proposal in the ABC Plan to give incumbent LECs an opportunity to accept or decline support in certain circumstances.[30] In particular, the *Notice* asks if "the opportunity to exercise a ROFR [would be] reasonable consideration for an incumbent LEC's ongoing responsibility to serve as a voice carrier

[28] AT&T Comments, WC Docket No. 10-90 *et al*. (filed Apr. 18, 2011), at 61.

[29] *Notice* at 2.

[30] *Id*. at 4.

of last resort throughout its study areas, even as legacy support flows are being phased down . . . ."[31]

Providing incumbent LECs with a ROFR option would not be "reasonable consideration" for anything under any circumstances. The ROFR option, by definition, closes out any opportunity for other carriers to receive support in service areas for which the option is exercised. The Commission has announced its intention to adopt a CAF mechanism that is "competitively neutral because it will not unfairly advantage one provider over another or one technology over another."[32] Providing incumbent LECs with a ROFR option cuts against this objective. Moreover, as Viaero Wireless has explained, pointing to incumbent LECs' COLR responsibilities is a red herring:

> CMRS [Commercial Mobile Radio Service] carriers, in their competitive ETC designation proceedings, often commit to comply with state regulations requiring service to any customer upon reasonable request. Incumbent LECs are not unique in being required to meet such commitments. Moreover, CMRS carriers are in some cases subject to onerous buildout requirements that are not imposed upon incumbent LECs.[33]

For these reasons the Commission should reject the proposal made in the ABC Plan to extend an ROFR option to incumbent LECs.

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[31] *Id*.

[32] *CAF NPRM*, 26 FCC Rcd at 4585 (para. 82) (footnote omitted).

[33] April 18 Joint Comments at 9.

D. Reforms for Rate-of-Return Carriers [PN § I.D.]

1. Rate-of-Return Mechanism.

The *Public Notice* seeks comment "on specific issues relating to universal service support for rate-of-return ("RoR") companies."[34] Viaero Wireless, however, will focus first on a threshold issue regarding universal service support and rate-of-return carriers.

As Viaero Wireless has previously explained, using universal service support to subsidize RoR rural incumbent LECs tends to favor inefficient operations but does not serve as a "guarantee that consumers would favor the wireline service offering over a mobile broadband offering. Awarding support in a manner that does not encourage *efficient* use of subsidies could therefore waste millions, if not billions, of CAF dollars."[35] A further problem with continuing to rely on RoR funding mechanisms to support rural incumbent LECs is that doing so "makes the business case for [mobile broadband] deployment more difficult, leading to shortages of private funding and delays in deployment."[36]

Linking CAF support to rural incumbent LECs' embedded costs would be the antithesis of reform. That conclusion was reached by the Commission fourteen years ago, when it found that embedded cost mechanisms "would lead to subsidization of inefficient carriers at the expense of efficient carriers and could create disincentives for carriers to operate efficiently . . . ."[37] That conclusion reached by the Commission in 1997 was an outgrowth of the Commission's finding eight years earlier that RoR regulation creates the wrong incentive for carriers:

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[34] *Notice* at 6.

[35] April 18 Joint Comments at 42 (emphasis in original).

[36] *Id*. at 43.

[37] *USF First Report and Order*, 12 FCC Rcd at 8901 (para. 228).

> Although carriers subject to such [rate-of-return] regulation are limited to earning a particular *percentage* return on investment during a fixed period, a carrier seeking to increase its dollar earnings often can do so merely by increasing its *aggregate* investment. In other words, under a rate of return regime, profits (*i.e.*, dollar earnings) can go up when investment goes up. This creates a powerful incentive for carriers to "pad" their costs, regardless of whether additional investment is necessary or efficient.[38]

As the Commission made clear in the *USF First Report and Order*, the same incentive operates for rural incumbent LECs receiving high-cost support pegged to their embedded costs.

As submitted, the RLEC Plan represents a firm stand at maintaining the *status quo* with respect to RoR. There is absolutely no reason for carriers that have been provided with RoR funding over many decades to voluntarily offer to relinquish a system that, boiled down to its essentials, amounts to "the more you spend, the more you get."

Viaero Wireless has attached hereto as Exhibit 2, a white paper authored by Don Wood, providing an analysis of the RLEC Plan. Mr. Wood's paper traces the shortcomings of RoR, including the Commission's longstanding rejection of RoR as an appropriate means to determine universal service support levels. With respect to the RLEC Plan, Mr. Wood makes the following important observations:

- RLEC statements that RoR has been effective and efficient are supported with almost no data, other than statements that small carriers have been able to edge out DSL deployments over the past decade while support has increased only 2.5-3% per year.

- RLECs can make no legitimate claim of efficiency regarding the outcome of the existing regulatory mechanism for rate-of-return carriers, because they do not know, and cannot know, how the total costs that they have in-

[38] *Policy and Rules Concerning Rates for Dominant Carriers*, CC Docket No. 87-313, Report and Order and Second Further Notice of Proposed Rulemaking, 4 FCC Rcd 2873, 2889-90 (para. 30) (1989) (emphasis in original).

curred compare to the total costs that would have been incurred subject to market-based incentives without an external benchmark.

- Reform must begin with the establishment of an external benchmark, such as a model, to validate costs that are to be recovered through future support mechanisms.

- Rather than focusing on constraints on investment or expenses, reform should reproduce incentives created by market forces to more effectively influence carrier behavior.

- Effective reform will encourage efficiency in a carrier's internal operations and encourage the use of the most efficient technology to provide service to a given customer location.

- When support mechanisms only permit the recovery of efficient cost levels, carriers will have an incentive to innovate, cooperate, and consolidate to the extent necessary to eliminate wasteful spending inherent in the existing mechanism.

2. Waiving Part 65 To Adopt a New Rate of Return.

The Commission "seek[s] comment on what data the Commission would need to have in the record to enable it to waive the requirements in Part 65 of the Commission's rules for a rate of return prescription proceeding, so that the Commission could quickly adopt a particular rate of return."[39]

If the Commission insists upon retaining a RoR mechanism for providing CAF support to rural incumbent LECs, this misadventure would be compounded by retaining the current authorized 11.25 percent rate of return, which is dramatically out of step with prevailing economic conditions. Viaero Wireless would therefore support expedited efforts—including the possibility of waiving Part 65 rules—for the purpose of adopting a

[39] *Notice* at 6.

more realistic rate of return for use in connection with CAF funding mechanisms for rural incumbents.

The Commission ideally should rely on its Part 65 procedures to represcribe the authorized rate of return, since those procedures are intended to produce an accurate result through a deliberative review process. If the Commission decides to forego utilization of its Part 65 rules, it should, at a minimum, seek to replicate the Part 65 process to the extent practicable by collecting data intended to mirror data that would be collected, and upon which the Commission would rely, in a Part 65 proceeding. The Commission could issue a Public Notice, in this CAF rulemaking proceeding, soliciting data pertinent to a RoR represcription, and then delay final action in this rulemaking to the extent necessary to enable the Commission to complete its work in represcribing the rate of return. In this way, a new (and, presumably, more realistic) rate of return would be in place before implementation of the new CAF funding mechanisms.

Viaero Wireless notes that the Joint Letter proposes that CAF calculations for areas served by rate-of-return companies would be calculated using a 10 percent rate of return, and that the State Members recommend that the rate of return for universal service calculations be set at 8.5 percent.[40] These suggested reductions in the level of the authorized rate of return (or an even more substantial reduction, which Viaero Wireless believes is warranted) would only be meaningful if state regulatory commissions vigorously oversee wireline carriers, including conducting rate cases at regular intervals. The following Table shows that rural LECs often earn in exceptionally high rates of return. These

[40] *See Notice* at 6.

earnings levels can occur without the carriers involved being required to return funding to consumers, to or reduce the amount of universal service support they receive.

RATES OF RETURN FOR SELECTED SMALL RURAL LOCAL EXCHANGE CARRIERS
[The listed rates of return are for intrastate service]

CARRIER	STATE	YEAR	RoR (%)
Amery Telcom Inc.	Wisconsin[1/]	2007	95.6
CenturyTel of Monroe County	Wisconsin	2007	37.1
CenturyTel of Wisconsin	Wisconsin	2007	33.9
Citizens Telecom Company	Oregon[2/]	FY 2009	50.6
Dubois Telephone Exchange	Colorado[3/]	FY 2010	63.3
Frontier Communications of Mondovi	Wisconsin	2007	70.9
Frontier Communications of Viroqua	Wisconsin	2007	84.0
Mount Angel Telephone Company	Oregon	FY 2009	34.7
Somerset Telephone Company	Wisconsin	2007	40.6

1/ Data for Wisconsin is calculated by dividing Net Operating Income by Net Telephone Plant in Service, which yields returns slightly different than calculations based on carriers' rate bases. Data from 2007 is used because, beginning in 2008, carriers ceased making Operating Income publicly available. Data for Wisconsin was accessed at http:// psc.wi.gov/apps40/annlreport/content/viewReport.aspx?whatannl=TELE.

2/ Data for Oregon was accessed at http://www.oregon.gov/PUC/commission/statbook.pdf?ga=t.

3/ Data for Colorado is calculated by dividing Net Operating Income by Net Telephone Plant in Service, which yields returns slightly different than calculations based on carriers' rate bases. Data for Colorado was accessed at https://www.dora.state.co.us/pls/efi/EFI.Show_Docket?p_session_id=&p_docket_id=11M-120T.

These returns should cause the Commission to question the dividend policies of these companies, the level of investment they are making in facilities upgrades, and ultimately, the need for support. The Commission has long understood the wealth of economic literature concluding that RoR is an inefficient means of providing support to regulated carriers. Between 1996 and 2001, the Commission developed a plan to wean rural carriers off of RoR, which has not yet been realized. Now, when the country needs in-

vestment in mobile broadband infrastructure, this is not the time to wall off over $2 billion of support to fixed wireline technology, set aside for carriers operating on a mechanism that is proven to be inefficient.

E. Implementing Reform Within a Defined Budget [PN § I.H.]

The *Public Notice* seeks comment on the implications of a proposal made in the Joint Letter "to constrain the size of the total high cost fund within a $4.5 billion per year budget"[41] during a budget period beginning in 2012 and ending in 2017.[42] The Joint Letter also proposes "that, for the budget period, the Commission establish an annual funding target for its mobility objectives of up to $300 million. This amount could be phased in to help stay within the budget."[43]

As a general matter, Viaero Wireless believes it would be a mistake to place a cap on the CAF funding mechanisms. As Viaero Wireless has concluded, "[u]nless the Commission insists on installing fiscal responsibility in the driver's seat of its universal service policies, any reasonable and balanced analysis should conclude that the Commission can pursue its goals for broadband deployment, and also operate the Fund in a fiscally responsible manner, without imposing an upfront spending cap."[44]

Imposition of a cap runs the risk of the Commission's new funding mechanisms being insufficient to facilitate the deployment of advanced broadband services throughout rural America. This risk could be avoided by expanding the level of funds available for the CAF mechanisms through the adoption of contribution reforms, and by ensuring the

[41] Joint Letter at 2.

[42] *Notice* at 9.

[43] Joint Letter at 2.

[44] April 18 Joint Comments at 12.

efficient use of disbursed funds by, *e.g.*, basing disbursements to rural incumbent LECs on a forward-looking economic cost model rather than on embedded costs. Viaero Wireless agrees with U.S. Cellular that "allowing pre-determined budget ceilings to drive the extent of the Commission's efforts to support broadband deployment amounts to allowing the tail to wag the dog."[45]

The implications of the specific proposal in the Joint Letter to phase in funding targeted for mobile broadband are clear: Sufficient deployment of mobile broadband networks would be in jeopardy, and rural consumers would be harmed. The Joint Letter's proposal to phase in universal service support for mobile broadband deployment flatly contradicts the "unprecedented emphasis [that is placed] on mobile broadband [by the Broadband Plan], because few sectors of our economy offer greater opportunities for economic growth and improvements to our quality of life."[46]

Given the concern expressed by the signatories of the Joint Letter regarding "stay[ing] within the budget[,]"[47] it would have been prudent for the Joint Letter to explore other options for ensuring that the consensus framework for universal service reform would not lead to budget over-runs, instead of focusing of delaying CAF funding for mobile broadband deployment. For example, the Joint Letter calls for:

> an annual funding target for areas served by rate-of-return carriers that begins at $2 billion and, to the extent necessary to help ensure sufficient funding, increases by $50 million per year (i.e., increasing to $300 million,

[45] United States Cellular Corporation ("U.S. Cellular") Comments, WC Docket No. 10-90 *et al.* (filed Apr. 18, 2011), at 66.

[46] Chairman Julius Genachowski, FCC, Remarks on Broadband (Mar. 16, 2011), at 5. The Chairman emphasized that "[t]he hunger for mobility is even greater than many imagined a year ago" when the Broadband Plan was issued. *Id.*

[47] Joint Letter at 2.

> or a total annual budget target of $2.3 billion, in the sixth year) to enable access restructuring, promote further broadband build-out (but only to the extent supported by increases in universal service/CAF funding above current levels), and provide a reasonable opportunity to recover the costs associated with existing investments in broadband-capable plant. This potential incremental funding for rate-of-return carriers would not be available to other providers.[48]

One option for staying within the budget would be to reduce or eliminate the proposed annual incremental increases in CAF funding for rate-of-return carriers, or to extend the phase-in of these incremental increases beyond the budget period proposed in the Joint Letter. Another option is to limit funding to wireline technologies to their current level, and limit funding to wireless technology to its current level. Given the unprecedented emphasis placed on mobile broadband by the Broadband Plan, there is no clear policy reason to adopt a proposal in which $300 million or less in total funding would be made available to rate-of-return carriers. It would make no sense to give a greater priority to rural incumbents' recoupment costs associated with existing investments in broadband-capable plant, than to the deployment of mobile broadband networks in rural areas.

III. CONCLUSION.

One of the most important challenges for the Commission as it considers how best to transform its universal service program to promote the ubiquitous deployment of broadband networks, is to ensure that its new support mechanisms ensure the efficient use of funding and enhance competition in local telecommunications markets. In addition, funding levels must be sufficient to bring access to advanced wireline and mobile wireless broadband networks to consumers and businesses throughout rural America.

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[48] *Id*.

Viaero Wireless respectfully urges the Commission to accomplish these objectives by adopting a three-phase universal service reform plan that will implement near-term reforms to achieve more efficient use of high-cost funding and produce savings that will control fund growth, initiate a process to examine and adopt a forward-looking cost economic cost model to govern the disbursement of support through the new funding mechanisms adopted by the Commission, and then phase in the use of the new cost model over a five-year period.

Respectfully submitted,

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Exhibit 1

Price Cap Carriers:
Earnings, Dividends, USF Support

PRICE CAP CARRIERS: EARNINGS, DIVIDENDS, USF SUPPORT

Company	Profits (Net In-come) (in millions)	Outstanding Shares (approx)	Quarterly Dividend Per Share (2010)	Quarterly Dividend Per Share (2011)	Total Annual Dividend (2010) (approx)	Total 2010 USF High-Cost Disbursement
AT&T	$19,864,000	5,940,000,000	$0.4200	$0.4300	$9,979,200,000	$146,089,031**
Verizon Communications	$2,549,000	2,830,000,000	$0.48125*	$0.4825	$5,447,750,000	$171,703,778**
CenturyLink	$947,705	600,000,000	$0.7250	$0.7250	$1,728,000,000	$188,255,062
Windstream	$310,700	468,000,000	$0.2500	$0.2500	$510,000,000	$81,076,709
Frontier	$152,673	9,000,000	$0.219*	$0.1875	$866,364,000	$31,390,008
Fairpoint	($281,579)	89,420,000	$0.0000	$0.0000	$0	$3,342,637

* Average over four quarters.
** For incumbent local exchange operations.

Source: Company web sites.

Exhibit 2

No Steps Forward, Two Steps Back:
An Analysis of the RLEC Plan for Regulatory Reform

No Steps Forward, Two Steps Back:
An Analysis of the RLEC Plan for Regulatory Reform

By Don Wood

WOOD & WOOD

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I. Introduction

The plan submitted by the Rural Local Exchange Companies ("RLECs") consists of separate short-term and longer-term elements. In the short term, the RLECs propose two very minor adjustments: a method for redistributing High Cost Loop Support ("HCLS") in a way that they believe is more equitable (but that does not reduce the total amount of HCLS to be distributed to RLECs), and the application of the existing HCLS cap on the recovery of corporate operations expenses to the Interstate Common Line Support ("ICLS") and Local Switching Support ("LSS") mechanisms (a constraint that will have a negligible impact on the amount of ICLS and LSS support received by RLECs).

Over the longer term, the RLEC Plan proposes to continue the protections of rate-of return regulation for the RLECs, and to permit additional investments (those associated with "middle mile" and "internet backbone" facilities) to be included in their regulated rate base, enabling them to qualify for an additional amount of federal support.

Both the short-term and the longer-term elements of the RLEC Plan are based on a fundamental assumption that the existing regulatory regime applicable to RLECs − one that is based on traditional rate-of-return regulation and the recovery of each company's "actual" costs of operation − represents an "effective and efficient" means of both expanding the availability of broadband services and minimizing the total amount of federal support necessary to do so. Taken together, the sort-term and longer-term elements of the RLEC Plan, if adopted, would ensure that the regulatory treatment of the RLECs will

continue in its current form with only minor adjustments, and that no meaningful reform measures will be enacted that will change the incentives currently faced by these carriers.

Because traditional rate-of-return regulation remains the core element of the RLEC Plan, an evaluation of the merits of this proposal must begin with an evaluation, based on the best information available, of the merits of rate-of-return regulation, the incentives that this form of regulation creates for regulated companies, and a determination of whether this incentive structure will permit the Commission's objectives, as set forth in the NPRM,[1] to be met.

As a starting point, this paper reviews the objectives of any form of regulation, and sets forth some basic principles that should form the basis for regulatory reform. The Commission's stated goals are then considered, including but not limited to the interrelated objectives of providing incentives for carriers to expand the availability of broadband services while also introducing sufficient incentives for those carriers to operate efficiently, so that the level of federal support is no greater than necessary to achieve broadband availability.

Using the framework of these regulatory objectives and the Commission's goals, the effectiveness of the existing regulatory regime applicable to most RLECs is then evaluated. Such an analysis is necessary because the RLEC Plan proposes to retain and perpetuate existing rate-of-return regulation with only minor (and ultimately inconsequential) alterations. If the existing form of regulation creates incentives for regulated carriers that are inconsistent with the achievement of the Commission's goals and objectives, then

[1] Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, WC Docket No. 10-90 *et. al*., FCC 11-13, released February 9, 2011 ("*NPRM*").

it is highly likely that the RLEC Plan, which retains (and in some ways expands) these incentives, will also be inconsistent with these goals and objectives.

In the NPRM, the Commission provides a list of the incentives created by the existing regulatory regime. While some of these incentives are perhaps exaggerated by the rules for implementing the various support mechanisms, the underlying incentives are inherent in rate-of-return regulation. This incentive structure includes: an incentive for regulated carriers to over-invest and to overstate capital costs; insufficient incentives for carriers to control operating costs; insufficient incentives for carriers to evaluate technology choices and to consider the use of technologies beyond the one traditionally deployed, and no incentives for carriers that are below a minimum efficient size to share network facilities, engage in joint ventures, or consolidate their operations with other carriers that would permit larger and more efficient network equipment and facilities to be used. Operation pursuant to rate-of-return regulation also causes a carrier's management team to define the company in terms of artificial constraints, and to think of the carrier only at its current size, using its current technology, and serving its traditional mix of customers. This overly narrow view reduces the likelihood that a carrier will evolve in response to industry changes, and instead to continue to operate in its historic mode for as long as possible.

The result of this regulatory legacy is that much of the country's rural area continues to be served by a larger number of small carriers. These carriers have weak incentives to control their costs, and no incentives to look outward to explore other means of

operating more efficiently. At present, over two billion dollars[2] are being devoted annually to an effort to permit these carriers to recover their "actual" level of cost, with no ability to determine how much of this support is necessary to support the operations of efficient carriers operating in high-cost areas, and how much represents wasteful and inefficient spending.

In response to the well-documented incentives of the existing form of regulation, the Commission has proposed to transition RLECs to a form of market-based incentive regulation over time, and to distribute support to all carriers in a way that reflects market incentives. What is currently missing is an external benchmark with which to evaluate the efficiency of an RLEC's costs. Such an external benchmark can be created by using a cost model, a competitive bidding process, or other means. However the Commission ultimately decides to distribute support over the long term (whether by the use of competitive bidding, cost models, or other means of approximating market-driven incentives), it is *essential* that it begin the process *in the near term* to "introduce elements of incentive-based regulation to rate-of-return carriers," and to do so in a meaningful way that will prepare those carriers (or more precisely, provide the necessary incentives for rate-of-return carriers to prepare themselves) for the market realities ahead.

An external cost benchmark will enable the Commission to evaluate the impact that rate-of-return regulation has had on the existing cost structures of the regulated companies, and to better determine whether a future regulatory regime based on rate-of-return regulation will be consistent with the Commission's goals. The inescapable reality is that

[2] In 2010, $2.016 billion dollars were provided to rate-of-return regulated carriers in the form of explicit subsidies through high-cost support. These carriers also received an additional amount of implicit subsidies through the existing intercarrier compensation ("ICC") regime.

any mechanism designed to ensure recovery of a high percentage of a carrier's "actual" costs, without reference to an external benchmark for efficiency, will lessen incentives for carriers to control costs and invest rationally. While there is no reason to believe that all rate-of-return carriers are engaging in the most egregious forms of wasteful spending, the point is that the Commission doesn't really know − and pursuant to the existing regulatory regime, has no real way to determine − what portion, if any, of a rate-of-return carrier's reported expenses are efficient and what portion are inefficient.

In addition to an examination of internal efficiency (that is, the efficiency of a given carrier's investments and operations, taking its current size as a given), and external benchmark is also needed in order to quantify the additional costs created (and presently supported) by the operation of a large number of companies who are too small to individually purchase and operate network assets at a minimum efficient size. It is currently impossible to determine the magnitude of the inefficiency created by the operations of "so many very small companies," though the increase in the total cost of providing service (and correspondingly, in the amount of support being distributed) is likely to be significant.

RLECs have historically pointed to their characteristics (small size, for example) as a justification for the continued application of rate-of-return regulation. What is now clear and must be considered is that it is their historic operation pursuant to rate-of-return regulation that has created and maintained these characteristics (enabling these carriers to recover their "actual" costs, even when higher than necessary because of the small scale of their operations, provides an incentive for these carriers to remain small). After remaining small in response to the incentives of rate-of-return regulation, these carriers use

their small size as a basis for its continued application. The only way to break this cycle is to introduce an external benchmark for efficiency and to begin to wean carriers from the incentives and protections of rate-of-return regulation.

These observations form a framework for evaluating the elements of the RLEC Plan. In the near-term, the RLECs propose to retain the existing form of regulation and the existing programs for the distribution of support. The two very minor adjustments that they propose will not begin the needed transition a more incentive-based form of regulation or provide the incentives necessary for the RLECs to operate in ways that are more market driven. The longer-term element of the RLEC Plan again retains the core element of rate-of-return regulation, and introduces variations to the way in which support is distributed that are likely to move away from market-driven incentives, and provide incentives for RLECs to invest inefficiently in additional categories of network assets and to price their broadband offerings not in response to the market but instead an a way that will enable them to receive additional support. If adopted, the RLEC Plan will have two primary impacts: (1) it will serve to perpetuate all of the problems associated with the existing regulatory regime, and (2) it will cause history to repeat itself: well-documented problems created by the incentives inherent in rate-of-return regulation that created undesirable outcomes with the deployment and offering of voice services will be repeated in the deployment and offering of broadband services.

Instead of taking two steps back, the Commission should act now to take at least one step forward. In the near-term, the Commission should take the steps necessary to begin the transition to an incentive-based form of regulation for the RLECs. It is not ne-

cessary to engage in a flash cut to a long-term mechanisms, but it is necessary to take the critical first step in that direction.

II. The Objectives of Regulation and the Basis for Reform

The objectives of regulation

In an ideal world, market forces would provide the incentives and constraints necessary to align an individual firm's rational self interest with the interests of society at large. In this hypothetical case, a firm can enter and exit a market without cost, has a business case to serve all requesting customers, and recognizes all externalities in its cost (and therefore price) structure. Such a firm would have the incentive to be responsive to customer needs, conduct its existing operations efficiently, proactively seek out new ways to provide better services at a lower cost, and price its services in a way that sends the correct signals to customers.

In the real world, markets deviate from this hypothetical ideal in varying ways and to different degrees. The purpose of regulation should be to "fill in the gaps" of the incentive structure found in a given market, so that the incentives and constraints experienced by a regulated firm are as closely aligned as is practical to those that would be created by market forces. By doing so, regulation helps to align the firm's interests with broader societal goals.[3]

In markets characterized by rapid technological change (such as those for telecommunications and related information services, including broadband data services), it is necessary to adapt rules and regulations to reflect changes in market dynamics and conditions. These ongoing changes and reforms are needed in order to (1) ensure that the

[3] As will be discussed in more detail below, if the proper incentives are in place it is not necessary for a firm to consciously act for the benefit of society, or for the firm to make its own interests subservient to any broader interest. Instead, the firm can act in its own rational best interest and, by doing so, help to achieve the broader societal goals.

currently-applicable regulations provide firms with the "correct" incentive structure (that is, the set of incentives that will permit the regulator's goals to be met in an effective and efficient way), and equally importantly, (2) ensure that regulations do not artificially constrain the firm's operations[4] in a way that is at odds with the regulator's objectives.

In the context of the Commission's current review, two primary sets of incentives are relevant. The first is set of incentives is necessary to induce a carrier to elect to invest resources and offer the desired services in a given geographic area or to a given set of customers, when no independent business case can be made for doing so because the characteristics of the area cause the carrier's cost to exceed the expected customer revenues. These incentives should be neutral with regard to the identity of the carrier and the technology (or mix of technologies) used, so that the desired services can be provided as quickly and as efficiently as possible.

The second is set of incentives (and potentially, constraints) is necessary to ensure that all such operations in these "high cost" areas are conducted efficiently and that the amount of support provided to any carrier is no greater than necessary to incent an efficient carrier to provide the desired services. As always, it is important to distinguish between a "high cost area" and a "high cost carrier." A given area may be inherently costly to serve (using any available technology) because of its geographic characteristics, customer density, or other factors. A given carrier, however, may incur high costs for mul-

[4] As explained in a later section of this paper, a set of regulations may inadvertently constrain a carrier's operations over time by allowing the carrier's management team to think in overly narrow terms and ultimately in a way that limits the carrier's ultimate potential. For example, the management team may think of the carrier only in terms of its existing size, its existing technology of choice, or its existing targeted customers. Over time, the application of these (or other) artificial constraints by management will limit the availability of services to customers, will cause costs to be higher than they otherwise would be (making necessary either higher prices or a higher level of support), and leave the carrier poorly positioned to operate effectively in the new environment.

tiple reasons: it may be efficiently serving an area that is inherently high cost, but it may also incur higher than necessary costs because it is using a sub-optimal technology (or mix of technologies) or because it is operating inefficiently and incurring higher-than-necessary capital or operating costs. To the extent possible, support should be targeted to high cost *areas* rather than to high cost *carriers*, because the latter focus may reward a sub-optimal technology choice or inefficient operation, resulting in a need for a higher total amount of support or resulting in fewer high cost areas being served with a given level of support.

Incentives for a carrier to serve an area for which no independent business case can be made

Regulations should provide support that is sufficient but not excessive**.** Support is sufficient if, when combined with customer revenues, it enables a carrier to recover the costs that would be recoverable in a competitive market; a carrier that is operating efficiently will be able to realize a reasonable return when receiving this level of support, regardless of the characteristics of the area being served. The question, of course, is how to determine this level of support for a given area.

It is reasonable to expect that a carrier receiving support will accept all of the support available to it pursuant to a given set of regulations, regardless of whether that amount of support is truly necessary to provide the desired services in a given area using the most efficient technology and provided by a carrier with efficient operations. Recognition of this fact does not require a value judgment regarding a carrier's management team, nor does it suggest that a carrier's management team has acted improperly given the set of incentives presented to it. If the amount of available support permits the recov-

ery of a carrier's existing costs, then a carrier that is using a sub-optimal technology or that is incurring higher than necessary capital or operating costs is likely to continue to do so, because the regulations in place do not provide incentives for the management team to actively explore new technologies (or mixes of technologies) or to actively seek out ways reduce capital or operating costs.

Of course, it is possible that a carrier's management team will act perniciously and knowingly engage in activities that will increase the level of support pursuant to a given set of regulations, by intentionally incurring higher costs than are necessary to provide the desired service in the area or otherwise "gaming" the system. The point here is that the impact on society generally (and on the Commission's goals specifically) *is the same in each case*: more support is provided to a carrier to serve a given area than is necessary, causing the total size of the support fund to be unnecessarily increased, or causing fewer high cost areas to be served with a given amount of support funds.

For this reason, it is essential that the determination of the amount of support needed to provide the desired service in a given area (an amount that is sufficient, but not excessive) *not* be made by a single carrier,[5] but instead must have some external validation. This validation can come from the Commission (potentially determined by using a cost model) or it can come from the industry (potentially determined by allowing carriers to propose a level of support through an auction process), but some form of validation must be applied in order to assure that the support for a given area is not excessive.

[5] The existing regulations permit a rate-of-return carrier to receive support sufficient to recover (subject only to a few limited exceptions) all of the costs that it incurs to serve a given area (i.e. its "actual" costs), whether or not those costs are efficiently incurred. As noted above, an excessive level of costs may be the result of overt efforts to game the system, or may simply be the result of too few incentives for management to engage in the not inconsiderable efforts necessary to minimize costs.

Rules that limit support to no more than is necessary for a carrier to recover the costs that it has "actually" incurred have not been effective in this regard, and will not be effective going forward.

Regulations should be truly technology neutral. To the extent possible, regulations should not prejudge the choice of technology (or mix of technologies) used to provide the desired service in a given area. As existing technologies develop and as new technologies become available, the technology of choice − for a rational firm subject to market incentives − is likely to evolve as well. Regulations that provide support that is tied to a given technology eliminate the incentive for a carrier's management team to actively consider new technologies that may produce an increase in service quality or a reduction in cost. In contrast, regulations that are technology neutral will reinstate the market incentive for a carrier to address technical challenges in the most effective and efficient manner possible, independently of the technology that may have been relied upon by that carrier in the past.

Regulations that are tied to a given technology also create an undesired (and unintended) incentive for a carrier to "define" itself in terms of a single technology, thereby reducing or eliminating the incentive to consider addressing a given technical problem with a mixture of available technologies. Carriers that define themselves in terms of single technology (as "wireline," "fixed wireless," "mobile wireless," or in terms of some other technology) and receive support based on this definitional technology, are less likely to consider broader, multiple-technology solutions to the challenge of providing the desired services in a given area. For example, a carrier that defines itself as a "wireline" carrier, and that receives "wireline" support, will have an incentive to attempt to serve all

customers, even those in the lowest density areas, using wireline facilities. This will hold true even if a terrestrial wireless, satellite, or other technology solution may be demonstrably more efficient.

Within most geographic areas characterized by high cost, there is no single technology that is preferable for providing service to all customers, yet regulations that provide support tied to a specific technology provide the incentive for carriers to force a square peg into a round hole in order to receive support. A superior, technology-neutral regulatory structure would provide incentives for all carriers to deploy the most efficient mix of technologies to serve the mix of customers in a given area. The use of multiple technologies may be accomplished through a carrier's internal resources alone, or (as a more likely and fully viable scenario) through the resources of multiple carriers acting in a coordinated fashion.[6] However accomplished, the result will be a more efficient use of support funds and an accelerated expansion of services into unserved areas.

Regulations should focus on the incentives necessary to have the desired service provided in given area, and not on providing support to a given carrier or type of carrier. In addition to being neutral[7] with regard to the technology (or the mix of

[6] This multiple carrier scenario could take many forms. If support is provided to incumbent carriers but only at an externally-validated, sufficient level (calculated to reflect the efficiency of using multiple technologies), the incumbent would have the incentive to obtain services from other carriers through arm's-length transactions (if few customers are involved), to engage in joint ventures (if more customers are involved), or to explore additional opportunities. If support is distributed through an auction process, carriers would have the incentive to jointly bid on areas, taking advantage of the efficiency of their combined operations and multiple technology platforms. However support is distributed, if the right incentive structure is in place carriers will have the incentive to find new and creative ways to combine their capabilities in a way that (1) makes rational business sense for them, and (2) accomplishes the Commission's goals.

[7] In this context, "neutral" means a regulation that does not create artificial incentives (or constraints) that lead to an outcome (e.g. the use of a given technology, the market position of a given firm) that is fundamentally different than the outcome that would result from market incentives.

technologies) used to serve an area, regulations should also be neutral with regard to the carrier (or mix of carriers) providing service in that area. Once customer safeguards are in place,[8] regulations should be designed to provide the necessary incentives for the desired services to be provided in a given area, without regard to the identity of the carrier (or mix of carriers) that will provide these services.

In many areas characterized by high cost (whether currently served or unserved), it is certainly possible − and in some areas, highly likely − that the most effective and efficient solution for providing the desired services may involve multiple carriers. If regulations presuppose "winning" carriers (by directing a given amount of support only to a certain category of carriers, by giving one category of carriers a right of first refusal, or by limiting support to a certain category of carrier), there is no incentive for these preselected carriers to explore more effective and efficient means of providing services, including but not limited to coordinating efforts with other carriers. This will result in a level of support that is higher than necessary, or in the desired services being provided to fewer areas for a given level of support.

[8] As discussed further in Section III of this paper, the Commission has proposed multiple (and sufficient) safeguards that will protect customers without regard to the identity of the carrier or carriers receiving support. *See* NPRM ¶¶128, 285, 309, 316, 349, 351, 352, 353, 354, 356, 365. These safeguards eliminate any legitimate public interest benefit of favoring an incumbent carrier over other carriers when considering eligibility for support.

Incentives for a carrier to operate efficiently

Regulations should provide incentives (and if necessary, constraints) to ensure that current and future operations are conducted in an efficient manner. Historically, considerations of efficiency − and of methods for ensuring efficiency through regulations − have focused primarily, if not exclusively, on a firm's internal operations. This internal focus is a necessary and important starting point, though as discussed in greater detail below, it represents only the first step of a broader process.

Incentives related to a carrier's internal operations include (but are not necessarily limited to) those necessary to encourage the carrier to deploy the most efficient available technology in a given situation, to properly size facilities so that adequate (but not excessive) capacity will be available, to deploy new equipment and facilities (whether based on a new technology or enhancements to an existing technology) in response to customer demands in new services or opportunities to experience increases in quality or reductions in cost, to operate equipment and facilities in a way that maintains service quality while minimizing cost, and to likewise conduct overall company operations in a way that maintains service quality while minimizing cost.

In order to ensure efficient internal operations, regulations that create incentives for proper behavior are superior to those that seek to constrain improper behavior. For example, if existing regulations create an incentive for a carrier to over-invest[9] in a type

[9] Such overinvestment can take many forms: a carrier can deploy a sub-optimal technology, can deploy more capacity than is necessary, can deploy a type of equipment or facility with capabilities not needed to provide quality service, can incur excessive acquisition costs for an asset, can replace a depreciated asset that remains useful, or engage in other strategies. If incentives for over-investment exist, the strategies used to do so will always remain at least one step ahead of even the most diligent regulator's efforts to develop and enforce the necessary constraints.

of network asset, the Commission can attempt to counteract this incentive by creating a restriction on the amount of investment that can qualify for support. The effectiveness of such a restriction will be inherently limited, however, for several reasons:

First, restrictions are typically developed only after carriers have responded to the improper incentive (in this example, to over-invest), so that the improper behavior (i.e., the behavior that leads to inefficiency) will occur for some period of time before constraints are applied. Second, the constraint must be developed by the Commission based upon the best available information regarding the proper amount of investment, rather than by a carrier responding to market-based incentives to make efficient investments. Finally, constraints on one type of expenditure create an incentive for a carrier to characterize or allocate a given expenditure in a way that avoids the constraint, thereby creating the need for additional constraints. While a partially-effective constraint is preferable to no constraint at all, it is clear that a much more effective strategy is to develop regulations that create incentives that reproduce, to the extent practical, the incentives that would exist in a competitive market. At a minimum, regulations should be crafted to avoid eliminating the proper incentives, or worse, creating incentives for improper behavior.

Regulations should provide incentives for carriers to act on opportunities to engage in joint ventures,[10] where efficient. Even where a given carrier's internal oper-

[10] In this paper, the phrase "joint venture" is intended to have a broad meaning and refers to coordinated effort among carriers to provide service. Such efforts may include a legal "joint venture," but could also include other arrangements: one carrier could purchase an asset of a minimum efficient size and lease capacity to other carriers, carriers could resell eachother's services, or the carriers may develop other methods of joint operation. Given the right incentives, carriers will find creative solutions to achieve the necessary economies of scale and scope in order to operate more efficiently. In contrast, carriers who receive support based on their existing "actual" costs will have little incentive to seek out these kinds of opportunities.

ations are efficient, it is possible that the desired service is not being provided as efficiently as possible in a given area. This situation can arise in two scenarios.

First, it is possible that a given carrier simply lacks the size to efficiently provision certain network functions, based on the size of its service area or its level of customer demand. Where a geographic area is subdivided into multiple independent service territories assigned to relatively small carriers, it is likely that none of the carriers reach the minimum efficient size to deploy network facilities beyond those that are specific to customer locations. In such a scenario, it is more efficient and less costly for multiple small carriers to engage in joint ventures to construct and operate network facilities such as transport and switching.[11] To the extent possible, regulations should provide incentives for carriers to engage in joint ventures where efficient, and, at a minimum, should avoid creating disincentives for carriers to engage in joint ventures that would permit the desired service to be provided over a given area at a lower total cost.

Second, as noted above, for a given geographic area (particularly areas characterized by low population density), it is likely that one technology may be the most efficient means of serving one subset of customers, while a different technology may represent the most efficient means of serving a different subset of customers. Regulations should avoid creating an incentive for a carrier to push forward with a plan to serve all customers with a single technology, but should instead provide incentives for a carrier, or combination of carriers, to utilize multiple technologies. Where one carrier lacks the

[11] The existing regulatory structure rewards many small rate-of-return carriers for investing in their own local (Class 5) switches, even though most of these switches are considerably smaller than the minimum efficient size. Not surprisingly, there is little evidence of shared investment in local switching, even though such sharing would be engaged in by rational carriers subject to market incentives. In contrast, there is evidence of at least some efforts to engage in joint ventures to invest in transport and tandem switching assets for which there are fewer regulatory incentives for rate-of-return carriers to invest in their own equipment and facilities.

ability to deploy multiple technologies (it may lack the necessary licenses or the necessary experience and management expertise, for example), the most efficient solution may be for carriers to engage in a joint venture to provide the desired services throughout the area.

It is reasonable to assume − and experience verifies − that the most efficient means of providing the desired services (in the immediate context, broadband services) across all geographic areas, including areas that are currently served and areas that are currently unserved, is for existing carriers to engage in more coordinated efforts to do so. In many rural or otherwise high-cost areas, the industry consists of a very large number of relatively small (sometimes very small) carriers[12] that typically attempt to serve throughout their respective service areas using (1) only their own equipment and facilities, (2) equipment and facilities sized for their limited service area, and (3) a single network technology. In order to enact meaningful regulatory reform, it is necessary to recognize that such a structure does not − and will not in the future − represent an efficient means of expanding and ensuring the availability of any service, including but not limited to traditional voice services or broadband services. Any regulatory structure that perpetuates this kind of isolated, ILEC-as-an-island operation will cause the total amount of support to be higher than necessary and will limit efforts to expend the availability of broadband services.

Finally, it is important to note that it is not necessary for the Commission to mandate these kinds of joint ventures in order for significant efficiencies and cost savings

[12] This characterization is most applicable to incumbent local exchange companies who have traditionally relied on wireline facilities, though it applies in varying degrees to other types of carriers as well.

to be realized. If the proper incentive structure is created − and, equally importantly, if the existing regulations that encourage isolated operation and discourage joint ventures are eliminated − carriers will act in their own rational self interest to engage in joint ventures, where efficient.

Regulations should provide incentives for carriers to act on opportunities to consolidate operations, where efficient. The current industry structure of a very large number of very small rural ILECs is a function of how these companies began (independently, on a community-by-community basis), the economics of mid-twentieth century technology (in which the relative costs of switching and transport costs may have justified a larger number of switches than could be justified today),[13] and the application of rate-of-return regulation (which allowed ILECs below the minimum efficient size, whose inability to realize potential economies of scale and scope caused them to incur higher than necessary costs, to nevertheless recover those higher costs through a combination of regulatory recover mechanisms). By allowing recovery of the "actual" costs incurred by these small, independent carriers, the continued application of rate-of-return regulation has eliminated the incentives for carrier consolidation that would have otherwise existed, and has created undesired incentives for small rural ILECs to remain small and to operate independently with little coordination with other carriers. As a result, the total geographic area currently being served by rate-of-return ILECs is being served today at a higher total cost than is

[13] The assumption that the existing number of local switches could have been economically justified at some point in the past has never been tested. Instead, prior regulatory regimes, including the existing regime, have simply made an implicit assumption that an ILEC should independently operate one or more Class 5 switches in order to provide service (even in case where the ILEC serves only a few hundred lines), and should be permitted to recover the high costs of doing so.

necessary. This inefficiency inevitably leads to a total amount of support that is higher than necessary, and fewer high-cost areas being served for a given amount of support.

As with the potential for joint ventures, it is neither necessary nor desirable for the Commission to require the consolidation of small, rural ILECs. Instead, regulatory reform should reintroduce the incentives for these carriers to operate efficiently, including the incentive to operate at a minimum efficient size. A necessary first step is to eliminate the existing incentives for small carriers to remain smaller than the minimum efficient size (a set of incentives that is the inevitable result of rate-of-return regulation).

Regulations should provide incentives for a carrier to transition to new technologies, or to adopt multiple technologies, where efficient. Existing regulations impact these incentives in two ways.

First, support that is defined in terms of a particular technology, rather than being defined in technology-neutral terms related directly to providing the desired service to customers in a given area, creates incentives that perpetuate the use of a given technology. For example, if a carrier has traditionally relied on only wireline facilities to provide service in an area is provided with "wireline" support, that carrier will have the incentive to continue to rely exclusively on traditional wireline facilities to provide and expand service, even in places where a different technology may offer superior service coverage and/or lower costs. In contrast, if support is available on a technology-neutral basis, at a level that reflects efficient operation (including, potentially, a mix of technologies), a carrier will have an incentive to explore new options, even where those options may be different from its historic operations.

Second, regulation that permits a carrier to recover all "actual" costs, limited only by a consideration of whether assets were "used and useful" at the time they are put into service, eliminates the incentive for a carrier's management team to actively consider new technology or enhanced versions of existing technology, either of which could improve service quality and reduce cost. By making support specific to an area rather than specific to a particular technology or specific to a given carrier (and therefore making it independent from how a given carrier has operated in the past), the proper incentives are created than will encourage all carriers to seek, consider, and deploy the best technical solution available to provide and expand the desired service.

Regulations should provide incentives for a carrier's management team to think broadly about the carrier's evolving role in a changing marketplace. Over the past four decades, the telecommunications industry (and related information service industries) has undergone significant changes, driven primarily by advancements in technology. In such a dynamic environment, change − however unwelcome such change may be in some quarters − is inevitable, and all service providers, regardless of how they have operated in the past, must evolve in order to remain viable and relevant. Regulations that are defined in terms of past industry structure and historic methods of providing services may serve to perpetuate the past for some period of time, but they do so at a cost to both customers and ultimately to the regulated carriers themselves.

Regulations that are designed around an attempt to artificially maintain the *status quo* have a clear cost to customers: the expansion of the desired service into currently-unserved areas may be delayed, the availability of new or enhanced service offerings may be delayed in areas where some service is currently available, and the total amount of

support that must be provided in order to induce carriers to deploy and operate the facilities necessary to provide the desired service in high-cost areas (whether currently served or unserved) will be higher than would otherwise be necessary.

In addition to being costly for customers, regulations designed to protect certain types of carriers from industry changes are also ultimately detrimental to those carriers. For example, the application of regulations designed to ensure cost recovery for a carrier that is currently small, has traditionally used only wireline facilities, and that has focused on providing service only to retail end-user customers, is highly likely to yield a carrier that remains a small, wireline, retail-only carrier for as long as these regulations are in place. Such a carrier's operations would remain stagnant even while significant changes are taking place within the industry in other geographic areas. Since the recovery of most or all of the carrier's "actual" costs are assured, the protected carrier's management team would have no incentives to explore new technology options, opportunities to engage in joint ventures or consolidation, opportunities to develop new customer markets, or to develop long-term strategies to ensure that the carrier remains relevant in an evolving marketplace. With regulatory protection, management may even engage in an irrational attempt to hold on to the firm's traditional business plan while experiencing an ongoing and steady loss of customers for the services that it has traditionally provided.

Ultimately, market forces and technological innovation overcome even the most vigorous regulatory protections. For this reason, regulated firms are ultimately better off if regulations are designed to retain the incentives for management to actively seek new opportunities and explore different methods of operation.

III. The Commission's Stated Objectives for Reform

In the NPRM, the Commission makes a number of short-term and long-term proposals for reform of both the USF and ICC regulatory mechanisms. The stated intent of these reforms is to "improve the efficiency and effectiveness"[14] of the support provided to carriers, and to modernize these regulatory systems "by eliminating waste and inefficiency."[15]

The Commission's guiding principles for reform

The Commission also adopted, consistent with the Joint Statement and National Broadband Plan, four core principles to guide the reform process. These principles, and the related principles of their implementation, are discussed below.

Modernize and refocus the existing regulatory structure in order to focus on the goals of "making affordable broadband available to all Americans" and to "accelerate the transition from circuit-switched to IP networks."[16] In order to meet this objective, the Commission has proposed to use available funds to encourage the widespread deployment of broadband services, and to target these available funds, to the extent possible, to the deployment and operation of the network facilities necessary to provide broadband services in currently unserved areas. In addition to providing incentives for carriers to invest in facilities to serve unserved areas, the Commission intends to create incentives that will encourage a transition for circuit-switched to IP-based net-

[14] NPRM, ¶15.

[15] NPRM, ¶1.

[16] NPRM, ¶10.

works. In order to accomplish this second objective, it will be necessary to first eliminate any existing incentives for carriers to maintain outdated infrastructure, including but not limited to circuit switching.[17]

Encourage fiscal responsibility by reducing waste and inefficiency in order to control the size of the universal service fund. As a part of its fiscal responsibility principle, the Commission adopted the goal of maintaining the current size of the universal service fund, and endeavored to develop means of funding broadband deployment such that the total amount of support is not increased.[18]

In order to ensure broadband deployment while maintaining the current fund size, the Commission focused squarely on the need to eliminate waste and inefficiency in the existing regulatory regime, and made both short- and long-term proposals intended to "eliminate wasteful or inefficient spending"[19] that will "result in more efficient use of federal support."[20] The Commission also notes that in order to provide a level of support that is "sufficient but not excessive," it has "broad discretion to provide sufficient universal service funding includes the decision to impose cost controls to avoid excessive expenditures that will detract from universal service," and notes federal courts have concluded that "excessive funding may itself violate the sufficiency requirements," and "ex-

[17] As the Commission correctly points out, "current rules actually *disincentivize* something necessary for our global competitiveness: the transition from analog circuit-switched networks to IP networks" (NPRM, ¶6). This issue will be addressed in more detail in Section IV.

[18] NPRM, ¶¶23, 413.

[19] NPRM, ¶28.

[20] NPRM, ¶275.

cessive subsidization arguably may affect the affordability of telecommunications services, thus violating the principle in [section] 254(b)(1)."[21]

Specific sources of "wasteful or inefficient spending" that occur within the existing regulatory regime are described in Section IV, below. The objective for regulatory reform should be to reduce or eliminate as many of the identified sources of "wasteful or inefficient spending" as possible, and to establish regulations that will provide the proper incentives for carriers to operate efficiently. When evaluating the merits of any reform proposal, including but not limited to the RLEC Plan, one of the first priorities should be to determine whether the proposed reform will eliminate existing waste and create the necessary going-forward incentives for efficiency.

Introduce additional requirements for accountability from all companies that receive support in order to "ensure that public investments are used wisely to deliver intended results."[22] In order to meet its "obligation to the public to ensure that [support] funds are spent appropriately and efficiently,"[23] The Commission has proposed expanded reporting requirements in order to evaluate all recipients' "compliance with program rules and the cost-effective use of program funds."[24] All recipients of high-cost funds would be required to "report to USAC on deployment, adoption, and pricing for both their voice and broadband offerings,"[25] and USAC would be permitted to perform audits as necessary.[26]

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[21] NPRM, ¶¶174, 412.

[22] NPRM, ¶10.

[23] NPRM, ¶457.

[24] NPRM, ¶458.

[25] NPRM, ¶459.

[26] NPRM, ¶471.

"Transition to market-driven and incentive-based policies" in order to "encourage technologies and services that maximize the value of scarce program resources" and to thereby provide "benefits to all consumers."[27] For the reasons set forth in Section II, the transition to market driven and incentive-based policies represents an *essential* component of any successful regulatory reform plan. In this context, "successful" reform is defined as reform that will provide the necessary incentives to ensure the provisioning of broadband services in high-cost and unserved areas, while also providing the incentives necessary for carriers to eliminate wasteful spending and to operate efficiently.

In order for these dual objectives to be met, the Commission has explicitly noted the need to "introduce elements of incentive-based regulation to rate-of-return carriers."[28] As a near-term step, the Commission has proposed that some initial support be made available through a competitive bidding process,[29] and concludes that "this use of a market-driven process to award support" will accomplish two objectives. First, it will "spur high-impact broadband deployment" in unserved areas. Second, it will provide "the Commission and the private sector experience with a mechanism for providing consumers access to high-quality network infrastructure in an efficient manner."[30]

The use of competitive bidding to distribute support represents a market-driven process that it likely to create incentives for bidding carriers that are very similar to the incentives created by a competitive market, and the Commission's proposal to distribute

[27] NPRM, ¶10.

[28] NPRM, ¶28.

[29] NPRM, ¶24.

[30] NPRM, ¶25.

an initial amount of support using this mechanism in order to gain experience with the process is a sound decision. It is important to note that the support distributed via this mechanism in the near-term will be incremental to the existing sources of high-cost support currently available to rate-of-return carriers. As a result, no incentives for efficiency will be created for rate-of-return carriers as a result of the contemplated trial of a competitive bidding process. Additional, affirmative steps must be taken in order to create incentives for efficiency, and more broadly to begin to introduce elements of incentive regulation.

Over the long-term, the Commission has proposed to transition all high-cost support to the CAF, and to distribute this support through a "competitive, technology-neutral bidding mechanism to select the firm to receive support for serving the area and take on all broadband and voice service obligations,"[31] although bidding firms would be able to partner with other carriers (potentially using different technologies) in order to develop a bid based on the most efficient combination of technologies to serve the area. If adopted for all carriers, including those carriers currently subject to rate-of-return regulation, the long-term reform would provide − once implemented − the necessary incentives for carriers to operate efficiently.

However the Commission decides to distribute support over the long term (whether by the use of competitive bidding, cost models, or other means of approximating market-driven incentives), it is *essential* that it begin the process *in the near term* to "introduce elements of incentive-based regulation to rate-of-return carriers," and to do so in a meaningful way that will prepare those carriers (or more precisely, provide the ne-

[31] NPRM, ¶400.

cessary incentives for rate-of-return carriers to prepare themselves) for the market realities ahead.

The Commission also introduced a broader principle that must be a part of any transition to "market-driven and incentive-based policies." In order to provide the proper incentives to both expand broadband deployment and reduce waste and inefficiency (both in the near and long term), support must be distributed in a way that is both competitively neutral and technology neutral; that is, it must not "unfairly advantage one provider over another or one technology over another."[32]

The first essential element of this neutrality policy is to define "broadband" in a neutral way. In the NPRM, the Commission proposes to "characterize broadband without reference to any particular technology, so that current high-cost and future CAF recipients would be permitted to use any technology platform, or combination of technology platforms, that satisfies the specified metrics." Such a definition properly focuses on the service received by customers rather than the technology used by carriers, and will permit service to be efficiently provisioned using a combination of technologies in a given area.

The second essential element of an effective policy is to provide incentives for carriers to utilize an efficient combination of technologies to provide service to a given area. The combination of technologies might be provisioned by a single carrier: "ultimately, the carrier would decide what technology or combination of technologies is most appropriate,"[33] or may be provisioned by multiple carriers engaged in joint efforts to efficiently provide service. The Commission notes, for example, that "a wireline incumbent carrier in an area might partner with a satellite provider to leverage the wireline provid-

[32] NPRM, ¶ 82.

[33] NPRM, ¶418.

er's existing network and to fill in the highest-cost areas with service provided by satellite."[34] If a cost model, rather than competitive bidding, is used to distribute support, the model must be based on a mixture of technologies in order to create the necessary incentives for efficiency: the model must "estimate costs of providing service using the lowest-cost technology capable of providing the required minimum level of voice and broadband service for each area, which may be wireless in some areas and wireline in others."[35] It is important to note that support designated to a type of carrier or to carriers using any particular technology will undermine these important incentives for carriers to utilize the most efficient technology mix.

The Significance of Additional Commission Principles for Consumer Protection

In the NPRM, the Commission proposes to adopt a number of additional consumer protection requirements that would apply to all carriers receiving support. In the past, incumbent carriers (who typically serve as the existing Carrier of Last Resort ("COLR"), have argued that in order to protect customers, the Commission must perpetuate a regulatory regime that protects the existing COLRs. This indirect process of customer-protection-through-incumbent-protection was argued to be the only means of assuring service availability in many areas, regardless of the ultimate cost of doing so. The Commission's proposed safeguards serve to sever this link between customer interests and carrier interests, so that the Commission can protect customers without the undesired effects of favoring one type of carrier (and often one particular technology) over others. By applying the proposed safeguards to all recipients of support, the Commission can pursue

[34] NPRM, ¶282.

[35] NPRM, ¶433.

the dual objectives of assuring the availability of services to customers while eliminating wasteful spending and increasing efficiency through a regulatory regime that is carrier and technology neutral.

The Commission has proposed "public interest requirements for all recipients (current high-cost recipients and CAF recipients) including coverage, deployment, reporting, and other obligations."[36] While the Commission addresses these safeguards in the context of a competitive bidding process, if applied to any going-forward regulatory regime these safeguards can serve to de-link the interests of customers in an area (and the larger group of customers nationally who are the ultimate source of both universal service and ICC payments) from the interests of carriers (the majority of which are for-profit entities who should not be artificially advantaged *vis-à-vis* other companies).

Specific safeguards include a requirement that all recipients meet the requirements for designation as an Eligible Telecommunications Carrier ("ETC");[37] additional requirements, "separate and apart from the process of relinquishing ETC designation," relating to a carrier's ability to "exit from the marketplace to ensure that there is a provider willing and able to serve customers in that area;"[38] a requirement that a recipient of support to serve a currently unserved area "build out within three years of their initial receipt of funding, and that obligations continue for a defined period, such as five years, following completion of the build out;"[39] a requirement that a recipient be a carrier with

[36] NPRM, ¶309.

[37] NPRM, ¶316.

[38] NPRM, ¶128.

[39] NPRM, ¶313.

the necessary authority to provide service in an area;[40] a requirement that a carrier provide "detailed project description that describes the network, identifies the proposed technology or technologies, demonstrates that the project is technically feasible, and describes each specific development phase of the project;"[41] and a requirement that a carrier demonstrate the financial ability to construct and operate the necessary network facilities, including a requirements that "recipients of funding be required to obtain a letter of credit that would be forfeited if they fail to meet their obligations."[42]

While the merits and effectiveness of any particular safeguard in a specific context can be debated, the larger point is that effective safeguards can be applied so that (1) customers can be fully protected, while (2) a regulatory regime can be adopted that both eliminates existing waste and inefficiency and creates incentives for efficient operation going forward. The critical first step on a path to meet both of these objectives is to sever the oft-claimed link (whether actual or illusory) between regulations designed to protect certain categories of carriers (and perpetuate the use of certain technologies) and regulations designed to protect customers independently of the currently serving carrier. These carrier-neutral customer protections can be adopted alongside regulations that create the proper incentives for investment in the most efficient technology, or mix of technologies, to provide the desired services in a given area. Efforts to engage in a going-forward strategy of protecting customers indirectly by protecting any particular group of carriers

[40] NPRM, ¶316.

[41] NPRM, ¶353.

[42] NPRM, ¶¶ 285, 356. The Commission would then verify, through field testing, that all obligations have actually been met.

will significantly limit the ability of the Commission to eliminate wasteful spending and to provide incentives for efficiency going forward.

IV. Problems with the Incentives Created by the Existing Regulatory Regime, as Noted by the Commission

The need to reform the regulatory regime applicable to rate-of-return carriers exists independently of the transition to a broadband focus

The existing regulatory regime applicable to rate-of-return regulated carriers (including the USF and ICC mechanisms) must be reviewed as a part of any meaningful and effective reform process. After observing that many of the current rules applicable to these carriers have not been examined "in more than a decade," that the existing regulatory regime does "not provide incentives for controlling capital and operating costs," and "does not prioritize funding" in ways that "make sense in today's marketplace," the Commission concluded that a current examination of the regulations applicable to rate-of-return carriers is "desirable even without the national imperative to advance broadband ."[43] The shortcomings of the existing regulatory regime for rate-of-return carriers are sometimes attributed to various rules associated with ICC and the implementation of the USF. As explained below, while these rules may exaggerate the adverse impacts, each of the shortcomings identified by the Commission is inherent in rate-of-return regulation and will be present as long as this form of regulation is applied.

The Commission has set forth multiple worthy objectives for reform: "advancing broadband service to all Americans; sustaining high-quality, reliable voice service for all Americans; sustaining and expanding mobile voice and mobile broadband coverage throughout the country; [and] increasing adoption of advanced communications servic-

[43] NPRM, ¶162.

es."[44] The Commission has also articulated the goal of meeting these objectives while "minimizing the burden on consumers and businesses, who pay for universal service," and specifically proposes that once necessary reforms are accomplished, "total disbursements remain no greater than the high-cost program would be under current rules."[45] In order to do so, the Commission must, in the short-term, take the first steps toward two essential transitions: (1) existing rate-of-return carriers must be transitioned to some form of incentive-based regulation, and (2) the existing mechanisms for distributing support must be transitioned to mechanisms that are carrier/technology neutral and that are market-driven.

The need to act in the near term to address the regulations applicable to rate-of-return carriers (and to make fundamental changes to those regulations) is clear. As the Commission has noted, "rate-of-return carriers are, by total support, the largest category of high-cost universal service support recipients. In 2010, high-cost support was distributed to 1,150 rate-of-return study areas (owned by 754 holding companies) that received high-cost disbursements of approximately $2.0 billion for serving approximately 5.8 million lines … on average, rate-of-return carriers received $348 in support per line annually, which is $29 in support per line per month."

This average of $29/month in high-cost support[46] can be put into perspective by comparing it to the average amount paid by end-user customers for local exchange service. The average rate for flat-rate basic local exchange service (exclusive of Federal and

[44] NPRM, ¶16.

[45] NPRM, ¶23.

[46] This amount includes high-cost support only, and does not include other sources of explicit and implicit support available to rate-of-return carriers through the existing USF and ICC mechanisms.

State Subscriber Line Charges, taxes, 911, and other charges) is $15.62, and with the inclusion of these additional charges the average monthly cost for local flat-rate service is $25.62.[47] Rate-of return carriers receive, on average, significantly more in high-cost support to provide basic voice services than they receive from the customers of those services.

The level of high-cost support (and of other forms of support available through the existing USF and ICC mechanisms) currently provided to enable rate-of-return carriers to recover their "actual" costs may be due in part to the characteristics of the areas that these carriers serve, and is certainly due in part to the undesirable incentives inherent in rate-of-return regulation. In order to determine the amount of existing support that is attributable to each of these potential causes, it is essential that the Commission apply some form of external validation to the method for quantifying the level of support that these carriers receive. As noted previously, this validation can come from the Commission (potentially determined by using a cost model) or it can come from the industry (potentially determined by allowing carriers to propose a level of support through an auction process), but some form of validation must be applied in order to assure that the support provided to a given carrier to serve a given area is not excessive.

Observed trends also support a conclusion that some form of validation must be introduced in the short-term in order to begin the process of eliminating the wasteful spending and efficiency that is inherent in rate-of-return regulation. As the Commission points out, "aggregate high-cost support for rate-of-return carriers has increased" by more than 12% over the 2006-2010 time period, while "such support for carriers that have cho-

[47] NPRM, ¶460.

sen to move to price cap regulation has declined" by over 20% over the same period.[48] The area served by rate-of-return carriers did not become more rural or more costly to serve compared to the area served by price cap carriers over this time period; the difference in support (and the basis for the ongoing divergence in the level of support) can only be attributed to the form of regulation applied to these different groups of carriers.

The flawed incentive structure created by rate-of-return regulation

Rate-of-return regulation creates an incentive for carriers to over-invest.

Any regulatory mechanism that permits a regulated carrier to recover its "actual" costs of network investment − with no process for externally validating whether those network expenditures are necessary or efficient − creates incentives for carriers to deploy more facilities than are necessary, to invest in network facilities with capabilities beyond those needed, to pay insufficient attention to the costs of acquisition of the assets, and to continue to invest in facilities to serve a large customer base even as demand is declining.

As the Commission notes in the NPRM, the existing high-cost mechanisms "provide poor incentives for rate-of-return carriers to operate and invest efficiently."[49] These "poor incentives" come in multiple forms:

■ Current rules "may have the unintended effect of providing some carriers more support than is necessary to ensure reasonably comparable local voice service at reasonably comparable rates,"

[48] NPRM, ¶166 and Figure 7.

[49] NPRM, ¶21.

■ Current policy "imposes no practical limits on the type or extent of network upgrades, so long as such networks continue to provide access to voice service."[50]

■ Current rules allow incumbent companies to "use high-cost support to deploy broadband networks to areas where there is an unsubsidized competitor" and to areas where the use of a different technology "would be a significantly less expensive option."[51]

■ Current rules allow a carrier to "accelerate network upgrades even where a more measured approach to capital investment might be appropriate, given the demographics of the customer base and rate of consumer adoption for new services."[52]

The fundamental problem with rate-of-return regulation, as the Commission correctly points out, is that this regulatory framework "provides universal service support to both a well-run company operating as efficiently as possible given the geography and demography of its service area, and a company with high costs due to or exacerbated by imprudent investment decisions, bloated corporate overhead, or an inefficient operating structure."[53] This fundamental problem exists, and will continue to exist, because rate-of-return regulation offers no external benchmarks with which to validate a regulated carrier's investments and related expenditures; as the Commission has observed, within the existing regulatory regime for rate-of-return carriers "there are few, if any, benchmarks for determining whether network investment is justified or appropriate." While it is possible to adopt a variety of constraints that would apply to specific expenditures, it is

[50] NPRM, ¶171.

[51] Id.

[52] Id.

[53] Id.

impossible to ascertain the effectiveness of those constraints absent an external benchmark. The Commission could apply a comprehensive set of constraints to investments made by rate-of-return carriers, but without an external benchmark it would have no way of knowing whether the adopted constraints were successful in eliminating 99% or 1% of the wasteful and inefficient spending that would otherwise occur. In order to meet its objectives, the Commission must adopt meaningful reforms in order to "increase accountability and start rate-of-return carriers on the path towards market-driven, incentive-based regulation." Such reforms cannot begin with the existing level of investment by rate-of-return carriers followed by the application of selected constraints, but must change the incentive structure faced by these carriers by using an external benchmark for evaluating the merits of investment decisions.

In addition to the broad observations described above, the Commission has described specific examples of the poor incentives for rate-of-return carriers to invest efficiently in local switching equipment and in local loop facilities.

Incentives for over-investment in local switching assets

In the NPRM, the Commission points out two incentives related to local switching investments that are inconsistent with its stated goals to increase broadband deployment while reducing wasteful spending and inefficiency. First, the existing regulatory regime discourages investment in more efficient, IP-based switches: "it has had the effect of rewarding carriers for maintaining outdated infrastructure rather than migrating to Internet protocol (IP)-based networks. Thus, current rules actually *disincentivize* something necessary for our global competitiveness: the transition from analog circuit-switched networks to IP networks."

Second, the Commission notes that the existing LSS mechanism can both over-compensate carriers and delay the deployment of a more efficient technology and arrangement. The existing LSS mechanism leads to inefficiency because "traditional circuit switches, which were based on specialized hardware, were relatively expensive for the smallest of carriers because such switches were not easily scaled to the size of the carrier, and therefore required additional support from the federal jurisdiction. LSS was created to ensure that small companies would be able to buy large, expensive hardware-based switches."[54] Support continues to be provided on this basis, even though "modern switching technology is cheaper and more efficiently scaled to smaller service areas."[55]

While the observation regarding increased scalability of local switching equipment is valid, and it follows that LSS overcompensates many carriers as a result, an important broader point must also be addressed. A mechanism, such as the existing LSS mechanism, designed to respond to the fact that "switches were relatively expensive for the smallest of carriers because such switches were not easily scaled to the size of the carrier"[56] is based on an implicit assumption that it is efficient for a large number of rate-of-return carriers to independently operate a very large number of local switches (whether traditional circuit switches or newer, IP-based switches).[57]

This critical assumption has never been tested, and may have never been valid. Changes in the relative cost of switching and transport facilities over the past thirty years strongly suggests that this assumption is now invalid (and has been invalid for at least the

[54] NPRM, ¶187.

[55] NPRM, ¶168.

[56] Id.

[57] As the Commission points out in the NPRM, many of the local switches operated by rate-of-return carriers today serve only a few hundred lines.

last two investment cycles for local switching equipment), and that it would be much more efficient to serve the customers of these carriers using a smaller number of larger local switches. At a minimum, such a fundamental assumption − an assumption that has the potential to significantly impact the total amount of support devoted to ensuring the availability of switching equipment to serve customers in rural and high-cost areas − should be tested before forming the basis for any going-forward regulatory regime.

As long as some form of rate-of-return regulation remains in place, such that certain carriers are able to recover their "actual" costs using equipment and facilities sized to serve a small customer base, this assumption will remain untested. In contrast, the application of an external benchmark will enable the Commission to quantify the impact of this inefficiency, and will provide the needed incentives for carriers to adopt a more efficient switching arrangement.

Incentives for over-investment in local loop facilities

As the Commission points out, the existing HCLS mechanism "creates incentives for companies to outspend their peers in order to receive more funding under the current capped formula."[58] The Commission's observations regarding the incentive for a capped HCLS mechanism to create the well-documented "race to the top" are valid, but again the fundamental problem is a much broader one: a capped HCLS mechanism certainly exaggerates an incentive for rate-of-return carriers to over-invest in loop plant, but the underlying incentive for overinvestment is inherent in rate-of-return regulation. With no external benchmark for validation, it is impossible to determine whether the loop-related in-

[58] NPRM, ¶21.

vestments of all rate-of-return carriers exceed the amount that would be incurred by an efficient carrier.

When evaluating the improper incentives created by the existing HCLS rules, the Commission takes note of the fact that the investment trend of the companies with the highest reported per-loop costs (those with a study area cost per loop greater than 150% of the national average cost per loop) was unexpected: "even as these companies experienced increasing rates of access line loss, their investment in net plant continued to increase. This may suggest that these companies continue to invest and upgrade their networks more than otherwise would be considered prudent for a company that is losing customers."[59] This analysis provides strong support for a conclusion that carriers who are reimbursed based on their "actual" costs are likely to incur higher costs that would be incurred by a carrier subject to either market forces or, in the alternative, some form of incentive regulation that attempts to recreate these market incentives.

While an analysis of carriers with a lower reported cost per loop showed a reduced level of investment when compared to the carriers showing the highest per-line cost, there is no reason to assume that the ongoing investment levels of these "modestly lower cost" carriers represents the operation of an efficient carrier. The Commission frames the problem as follows: "the net result of our existing HCLS rules is to concentrate support among a subset of rural carriers with very high costs and to reduce support to other rural carriers whose costs may be only modestly lower"[60] yet still high. It is certainly valid to question why existing rules have resulted in the distribution of HCLS to a smaller number of carriers over time, but the salient question a broader one: Why are the

[59] NPRM, ¶178.

[60] NPRM, ¶179.

costs of each of these carriers (whether the highest cost carriers or those whose reported costs are high but "modestly lower) high? Are the costs high because a particularly difficult to serve area is being served by "a well-run company operating as efficiently as possible given the geography and demography of its service area"?, are the costs high because an area is being served a carrier "with high costs due to or exacerbated by imprudent investment decisions, bloated corporate overhead, or an inefficient operating structure"?, or − the most likely scenario for most rate-of return carriers − some combination of both? In order to estimate which factor (or the relative mix of factors) is driving the costs of a given carrier, the reported costs must be compared to an external benchmark. In order to create the proper incentives, such a benchmark must be developed independently of the reported costs of any group of rate-of-return carriers. If a benchmark is based on an average of reported costs (or even on a regression analysis that more precisely ties the level of costs incurred to specific cost drivers), the outcome will be an assurance of "no worse than average" rather than the proper goal of "no worse than efficient."

As the Commission correctly observes, under existing rules rate-of-return carriers with high reported loop costs "may have up to 100 percent of their marginal loop costs above a certain threshold reimbursed from the federal universal service fund," resulting in two interrelated effects: "First, carriers with high costs may further increase their loop costs and recover the marginal amount entirely from USF, rather than from their customers. Second, carriers that take measures to cut their costs to operate more efficiently may actually lose support to carriers that increase their costs." The Commission's conclusion is a decided understatement: "these two effects may lessen incentives for some carriers to

control costs and invest rationally."[61] The inescapable reality is that any mechanism designed to ensure recovery of a high percentage of a carrier's "actual" costs, without reference to an external benchmark for efficiency, will lessen incentives for carriers to control costs and invest rationally. In order to avoid imposing higher than necessary costs on the "consumers across the country" who must ultimately provide the support to these carriers, it is necessary to begin to transition existing rate-of-return carriers to a form of incentive regulation driven by market-based incentives.

Rate-of-return regulation provides no incentive for carriers to control costs.

The improper incentives inherent in rate-of-return regulation apply equally to capital and operating costs. As the Commission notes, the regulatory mechanisms applicable to rate-of-return carriers "often do not provide incentives for controlling" operating costs.[62] The result of the existing rate-of-return incentive structure can be "bloated corporate overhead" and "an inefficient operating structure."[63] While the Commission focused its near-term reforms on certain categories of expense (particularly corporate operations expense), the issue is again a broader one: the proper incentives must be in place to encourage carriers to incur only an efficient level of all categories of operating expense.

The Commission's discussion of corporate operations expense serves to illustrate the limitations inherent in attempting to control any category of expense by the application of constraints rather than by implementing a regime that will create the proper incentives for carriers to incur only an efficient level of expense. The first problem inherent in constraints is gaming: as the Commission has observed, "holding companies arbitrarily

[61] NPRM, ¶202.

[62] NPRM, ¶162.

[63] NPRM, ¶171.

allocate overhead" to individual study areas in order to "to avoid the corporate operations expense limitations for HCLS." The application of constraints is an ongoing process in which a regulator responds to the latest efforts by regulated carriers to avoid the constraint. The second problem involves the difficulty in setting constraints at an effective level that minimizes inefficiency while allowing carriers to recover legitimate costs. Without an external source of validation for the level of a given category of expense, the Commission must use imperfect information in order to quantify the constraint. Without an external validation of the constrained level of expense, the Commission cannot know how much of the existing wasteful spending is eliminated by the constraint it decides to impose. For example, the author has recent experience with a rural, rate-of-return carrier for which the two categories "company picnics" and "company birthday celebrations" accounted for over 20% of the reported level of corporate operations expense, yet the carrier remained below the currently-effective cap so that 100% of its reported corporate operations expense was recoverable through HCLS. In this example, "consumers across the country" have been required to provide support for the recovery of the "actual" cost of social events that no have discernable relationship to the provisioning of either voice or broadband services. The Commission has noted that corporate operations expenses "do not appear to result from costs inherent in providing telecommunications services, but rather may result from managerial priorities and discretionary spending."[64] While there is no reason to believe that all rate-of-return carriers are devoting 25% of this "discretionary spending" account to throwing parties, the point is that the Commission doesn't really know − and pursuant to the existing regulatory regime, has no real way to determine −

[64] NPRM, ¶197.

what portion, if any, of a rate-of-return carrier's reported expenses are efficient and what portion are inefficient.

Rate-of-return regulation provides no incentive for carriers to share network facilities or to engage in joint ventures to invest in common facilities. Rate-of-return permits significant inefficiency because is presumptively treats even the smallest carriers as if they represent the minimum efficient size for both capital and operating costs. Even if a regulatory regime properly constrains costs based on this internal view, so that for its current size a given carrier is incurring an efficient level of capital and operating costs to serve the area that it currently serves, such a regime will overstate the total costs of providing service to rural or high-cost areas and will represent a much greater burden on those "consumers and businesses who pay for universal service."

Rate-of-return regulation rewards companies for remaining small and for operating a network scaled to provide service to relatively few customers. But as the Commission has noted, "facilities-sharing arrangements could result in more efficient use of supported infrastructure." Such arrangements are demonstrably possible, given the right incentives. In some states, rate-of-return carriers have engaged in joint efforts to deploy tandem switching and transport facilities (notably, facilities not directly recoverable through the existing HCLS and LSS mechanisms). The potential for greater efficiency through the joint provisioning and operation of network assets or extends to other parts of the network. Local switching could also be "shared among non-contiguous properties"[65] held by a single holding company or "shared among companies,"[66] allowing switching

[65] NPRM,¶187.

[66] NPRM, ¶21.

assets of an efficient size to be deployed and for all participating carriers to experience a reduction in switching costs.

Because the costs of deploying and operating middle mile facilities are not currently subject to universal service support, "some small carriers have cooperatively developed regional networks to provide lower cost, higher capacity backhaul capability."[67] A change in the regulatory regime to permit recovery of these costs would likely end the cooperative deployment of these facilities (rate-of-return carriers would then have the incentive to deploy their own facilities, even though inefficiently small, and recover their "actual" costs of doing so); at present the incentives exist for cooperative deployment and operation, along with the corresponding increase in efficiency and reduction in cost.

Carriers not subject to rate-of-return regulation, and who therefore are subject to market incentives, have also described arrangements to reduce operating expenses: "sharing the costly expenses associated with carrier-grade monitoring, diagnostic, and repair services reduces operating costs in rural, remote and underserved areas."

In summary, the available evidence suggests that the sharing of network facilities and operational activities is a viable means of achieving significant cost savings. Joint provisioning and sharing opportunities have been undertaken where the proper incentives are in place, and are technically achievable going forward for additional network functionalities, including local switching and backhaul facilities. Of course, carriers must have the incentives to engage it these joint efforts where efficient. The first step in restoring the necessary incentives is to begin to transition away from a regulatory regime that permits the recovery of a carrier's "actual" costs.

[67] NPRM, ¶395.

Rate-of-return regulation provides no incentive for carriers to combine historic study areas in order to increase efficiency. The inefficiencies inherent in the operation of numerous small, separately-operating carriers actually extend one level deeper, to the level of individual ILEC study areas. Facilities and operations are often scaled to the level of the study area, effecting allowing rate-of-return carriers to take an additional step away from the minimum efficient size. The "actual" costs are incurred, reported, and recovered by the carrier at the study area level even in cases where lower costs could be achieved by consolidating facilities and operations from multiple study areas. As the Commission points out, the existing regulatory regime creates incentives for rate-of-return carriers to operate these separate study areas, by "reward[ing] incumbent LECs for maintaining small study areas in a state, even in situations where they have other operations in the state" by allowing the recovery of costs "actually" incurred at the study area level. The Commission goes on to recommend reforms intended to "encourage carriers to gain the efficiencies of scale by merging operations with other small rural study areas, because there no longer would be an advantage to keeping the two study areas separate" in order to maximize support.

In a situation where the total operations of a rate-of-return carrier are smaller than the minimum efficient size, incurring and reporting costs for only a subset of the area served creates additional inefficiency and overstates the amount of support necessary to ensure the availability of the desired service in a given area. If reforms are implemented so that costs are recoverable only at a level at which economies of scale and scope can be realized, carriers will have the incentive to combine study areas within both their reporting and in their actual operations.

Rate-of-return regulation provides no incentive for carriers to consolidate with other smaller-than-efficient carriers. In order to achieve the stated goals of maintaining the availability of voice services, expanding the availability of broadband services, and eliminating wasteful spending and inefficiencies so that the current size of the universal service fund can be maintained, meaning regulatory reform must address the issue of the current number and size of rate-of-return regulated carriers. A regime that allows the recovery of "actual" costs, even when those costs are higher than efficient levels because of the small size of the carrier, has eliminated incentives for carrier consolidation that would likely have occurred if these carriers had not been subject to rate-of-return regulation.

The Commission correctly points out that its rules "may have the unintended consequence of discouraging beneficial consolidation of small carriers by subsidizing inefficient operating structures and limiting the ability of small companies to acquire and upgrade lines from other providers." The Commission's discussion relates specifically to universal service rules, but the problem is inherent in rate-of-return regulation. If a carrier that is smaller than minimum efficient size can recover the higher costs that it incurs, it has little incentive to explore ways to gain efficiencies of scale and scope through joint provisioning or consolidation with other carriers. The Commission goes on to conclude that "it may not serve the public interest for consumers across the country to subsidize the cost of operations for so many very small companies, when those companies could realize cost savings through implementation of efficiencies of scale in corporate operations that would have little impact on the customer experience."

It is currently impossible to determine the magnitude of the inefficiency created by the operations of "so many very small companies," though the increase in the total cost of providing service (and correspondingly, in the amount of support being distributed) is likely to be significant. The only way to determine the amount of current waste in the system is to make the transition to incentive regulation that permits cost recovery only at market-based levels. As noted above, external validation of cost levels can be achieved through the use of a cost model (that calculates costs across an area of minimum efficient size), through a competitive bidding process, or through another means. Once the level of recoverable costs is established at the efficient level, carriers will have an incentive to consolidate their operations to the extent necessary to achieve the economies of scale and scope necessary to reduce costs to efficient levels.

Rate-of-return regulation provides no incentive for carriers to focus on providing current and future services to customers. A common criticism of rate-of-return regulation is that it rewards carriers for building networks rather than for serving customers. More precisely, rate-of-return regulation rewards carriers for incurring capital costs, gives those carriers few incentives to control their level of operating costs and, when combined with universal service mechanisms to help ensure the recovery of "actual" costs in the absence of sufficient customer revenues, gives them little incentive to maximize the level of customer demand for their services.

As Commission points out, the absence of "benchmarks for determining whether network investment is justified or appropriate" allows a company "to spend millions of dollars to build a state-of-the art network that may serve only a few customers."[68] In or-

[68] NPRM, ¶21.

der to avoid this scenario, it is necessary to engage in reform that will create effective incentives for internal efficiency and also create effective incentives for carriers to engage in joint provisioning and consolidation where efficiencies can be gained by doing so. The necessary reform requires a movement away from rate-of-return regulation and a transition to an incentive-based structure that will yield market-based levels of efficiency.

A transition to market-based incentives must be undertaken before the amount of waste and inefficiency in the existing regulatory regime for rate-of-return carriers can be quantified

It is not possible to accurately quantify the amount of existing "waste and inefficiency" that is attributable to each of these categories of undesirable incentives created by rate-of-return regulation. The Commission has correctly pointed out a number of specific sources of inefficiency in the existing regime, and the price tag of some of these sources of wasteful spending can be quantified. But in order to begin to quantify the total cost of rate-of-return regulation − and to begin to quantify the additional "burden on consumers and businesses, who pay for universal service" that this form of regulation creates − it is necessary to compare the "actual" costs incurred by the rate-of-return carriers (subject to the incentives inherent in this form of regulation) with some externally-generated estimate of the efficient level of cost to serve an area. The data needed for this external validation may be produced through the development of a cost model, through the implementation of a competitive bidding process, or through some other means, but its development represents an essential step in the realization of the Commission's stated goals. Whatever other steps it elects to take to constrain the amount of support provided to rate-

of-return carriers in the short-term, the Commission should also take affirmative steps toward the development of some form of external validation without delay.[69]

[69] As will be described in more detail in Section VII of this paper, the proponents of the RLEC Plan describe the development of a cost model as a " Sisyphean task," and generally characterize even the beta testing of a competitive bidding process (even one that distributes support incremental to existing mechanisms) as an act likely to precipitate the Apocalypse. It is unclear why any group of carriers would oppose the generation and collection of this kind of market-based information, other than the fact that these kinds of externally-developed cost estimates will make expose to the Commission, to Congress, and to the public the magnitude of inefficiency inherent in the existing regulatory regime applied to these carriers.

V. Problems with the Incentives Created by the Existing Regulatory Regime, Beyond Those Noted by the Commission

As described in the previous section, throughout the NPRM the Commission has identified a number of sources of wasteful and efficient spending created by the existing regulatory regime applied to rate-of-return carriers. When doing so, the Commission attributes much of this inefficiency to various rules related to the administration of the ICC and USF mechanisms. These observations are accurate − many of the existing rules create incentives for inefficient operation − but incomplete. In order to fully evaluate the current regulatory regime and begin to take steps toward effective reform, it is essential to recognize that these rules simply exaggerate incentives that are inherent in rate-of-return regulation; it is the underlying form of regulation that creates incentives for inefficient operation in some cases, and fails to provide sufficient incentives for efficient operation in others.

The Commission has articulated ambitious goals for regulatory reform: (1) advancing broadband service to all Americans; (2) sustaining high-quality, reliable voice service for all Americans; (3) sustaining and expanding mobile voice and mobile broadband coverage throughout the country; (4) increasing adoption of advanced communications services; and (5) meeting objectives (1) through (4) while "minimizing the burden on consumers and businesses, who pay for universal service." The goals are attainable, but in order to reach them it will be necessary to engage in fundamental reform of the regulations applicable to rate-of-return carriers by fully considering the incentives inhe-

rent in rate-of-return regulation and acting in the near term to begin the transition to a form of incentive regulation for these carriers.

Rate-of-return carriers typically argue that their unique characteristics justify the continued operation of rate-of-return regulation. Such arguments confuse cause and effect: in many cases, it is the carrier's operation pursuant to rate-of-return regulation that has created the unique characteristics that they claim. What must be recognized is that this form of regulation causes the regulated carriers to view themselves narrowly, and to apply artificial constraints to their own operations which result in inefficiency and higher costs.

A mechanism for the recovery of "actual" costs, with no external benchmark for efficiency, causes carriers subject to rate-of-return regulation to view themselves (and to operate) as small, independent islands (and where multiple study areas are controlled by the same carrier, to view each study area as an independent operational island). These carriers define themselves narrowly in terms of the geographic area that they currently serve, the technology that they currently use, and the customer segment that they currently serve − even though none of these constraints are externally imposed.

As a result, these carriers deploy their own network assets capable of providing all of the required network functions, even when such assets are well below the minimum efficient size. While they readily admit that in some locations a different technology may be more efficient, these carriers also continue to build out utilizing the technology that they have traditionally used and incur the higher costs of doing so. And while they readily acknowledge the existence of scale and scope economies that yield lower costs for

larger carriers, they rarely act to take advantage of opportunities to engage in the joint ventures or consolidation that would enable them to realize these same efficiencies.

Once these carriers define themselves in overly narrow terms, regulators and the industry often accept these narrow definitions as a given, and more importantly, as a constraint in the regulatory reform process. For example, the Commission refers at various places in the NPRM to "small, rate-of-return carriers" or to "small companies operating in rural areas." These carriers argue that their small size justifies (and even mandates) the continued application of the carrier protections inherent in rate-of-return regulation, and the Commission proposes a number of alternatives for continuing to apply rate-of-return regulation to these carriers going forward.[70]

What has been omitted from the discussion to date is recognition of the fact that it is the ongoing application of rate-of-return operation that has created the incentives for these carriers to remain small. With this recognition, the circular nature of the ILEC argument becomes clear: after operating pursuant to a form of regulation that has provided incentives for them to remain inefficiently small (or has at least eliminated the incentives that would have otherwise existed for them to become larger and more efficient through consolidation), carriers subject to rate-of-return regulation argue that their small size justifies the continued application of this form of regulation. The only way to break this cycle is to introduce an external benchmark for efficiency and to begin to wean carriers from the incentives and protections of rate-of-return regulation. As the Commission has

[70] NPRM, ¶¶448-455. The Commission offers these alternatives even though it has consistently concluded that support for all carriers should be based on "forward-looking economic cost" rather than embedded or "actual" cost.

correctly observed, it is time to consider the broader impact of the *status quo*: "it may not serve the public interest for consumers across the country to subsidize the cost of operations for so many very small companies, when those companies could realize cost savings through implementation of efficiencies of scale in corporate operations that would have little impact on the customer experience."

Company size is not the only artificial constraint that rate-of-return carriers impose upon themselves. Wireline carriers often seek to justify the continued application of rate-of-return regulation by referring the very high costs they incur to expand wireline facilities into the lowest density areas. But when doing so, they fail to recognize or acknowledge that the incentive to use high-cost wireline facilities to serve these customers, rather than to use an alternative, lower cost technology (either through its own operation or in partnership with another service provider), is created by rate-of-return regulation. The argument remains circular: high costs are used to justify a form of regulation, that form of regulation provides an incentive to incur high costs going forward, and these higher costs are then used to justify the form of regulation.

It is also important to recognize that adding constraints to the recovery of costs by a rate-of-return carrier, while keeping the form of regulation essentially intact, cannot serve as an alternative path to efficiency. For example, the Commission considers the application of such a constraint through a process of resetting funding levels periodically "to generate an appropriate forward-looking return for an efficient carrier for the investments at issue."[71] The problem with this alternative is the quantification of the "investment at issue": a carrier subject to rate of return is likely, for all of the reasons set forth

[71] NPRM, ¶452.

in Section IV and above, to have a much higher level of investment than an efficient carrier. The application of an "efficient" return percentage to an inflated base of investment will inevitably yield an excessive level of cost to be recovered, resulting in a higher cost to the individuals and businesses that must ultimately provide the support.

In the end, the Commission need not make the determinations regarding the efficient size of carriers, the technology that should be used, or how carriers should engage in joint ventures. Instead, the Commission should act in the near term to (1) eliminate the currently disincentives for efficiency inherent in rate-of-return regulation, (2) engage in regulatory reform that will provide market-based incentives without artificial constraints.

VI. Standards for Review of Any Proposal for Regulatory Reform, including the RLEC Plan

In order to successfully "eliminate waste and inefficiency" while reorienting the existing regulatory regime toward meeting "the nation's broadband availability challenge," any proposal for reform must begin with an objective assessment of the existing regulatory regime, including any inherent weaknesses that should be addressed. As described in Section IV, the Commission has provided the starting point for such a process by identifying a number of sources of wasteful spending and inefficiency created by the existing regulations. But a complete assessment must go one level deeper, and consider the incentives inherent in rate-of-return regulation itself that are at odds with the stated objectives for reform. Reformed regulations should address any ICC or USF-related rules that serve to exaggerate the underlying incentives inherent in rate-of-return regulation, but must also begin a transition away from the incentives of rate-of-return regulation through the implementation of market-based incentive regulation. The market-based incentives can be created through a competitive bidding process, the use of a cost model, or other means, but must include an external benchmark for the validation of any costs that are to be recovered through future support.

Proposed reforms should also be evaluated in terms of their focus on incentives rather than constraints. The effectiveness of applying constraints to specific levels of investment or operating expenses is always limited; such constraints typically lag the identification of an inefficient level of spending, result in limits that are less precise than market-based incentives, and are subject to efforts by regulated carriers to circumvent their application. In contrast, regulations that reproduce, to the extent possible, the incentives

created by market forces will more effectively influence the behavior of a regulated carrier, and are not subject to the artificial constraints that may characterize a carrier's existing operations.

Finally, proposed reforms should be evaluated in terms of their effectiveness. Effective reforms will create incentives that will encourage efficiency in a carrier's internal operations; that is, incentives will be present for a carrier to incur capital and operating costs that are no higher than necessary to provide service throughout its existing service area and using existing technology. But limited reforms that take existing carrier characteristics as a given will leave a significant amount of wasteful spending and inefficiency "on the table." Future regulations should also be technology neutral, and provide incentives for carriers to utilize the most efficient technology to provide service to a given customer location (either through its own operations or through partnership with another carrier utilizing a different technology). Regulations must also be carrier-neutral (sometimes described as competitively neutral), and should not be defined in terms of an existing category of carriers that presupposes the "winning" carrier in a given geographic area. It is also important that future regulations not be artificially constrained by the existing scale and scope of any individual carrier's operations. Carriers should have an incentive to engage in joint ventures and consolidate operations, where efficient. If support is available only the extent required to permit the recovery of an efficient level of costs incurred by a carrier (or combination of carriers) using the most efficient technology to serve a given customer location and operating at a scale and scope that permits available efficiencies to be realized, carriers will have the incentive to innovate, cooperate, and consolidate to the extent necessary to eliminate the wasteful spending inherent in the existing structure of

the industry. In contrast, support designed to permit the recovery of embedded, "actual" costs associated with the current characteristics of a carrier will perpetuate the incentives for current rate-of-return carriers to continue to operate as small, independent, high-cost islands, and will artificially favor these carriers over other potential service providers.

VII. Review and Analysis of the RLEC Plan

The RLEC Plan is based on two fundamentally flawed assumptions

In their Comments,[72] the RLECs base their support of the RLEC Plan on two fundamentally flawed premises: first, that the existing regulatory regime for rate-of-return carriers has resulted in operation by these carriers that is both efficient and effective, so that only minor adjustments to the existing regulations are appropriate, and second, that the traditional operation of RLECs as COLRs supports the continuation of a strategy of indirectly protecting the interests of customers by protecting the interests of the RLECs.

The RLECs argue that an assumption of effectiveness and efficiency should serve as a starting point for the evaluation of any proposed reforms: before proceeding to the discussion of any elements of the RLEC Plan, they argue, "it is important as part of any informed decision-making process to acknowledge the efficiency and effectiveness of the existing high-cost support mechanisms"[73] "claiming that "data indicate that RLECs have in fact operated effectively and efficiently by leveraging USF to deploy and sustain broadband-capable, multi-use networks."

[72] Comments of the National Exchange Carrier Association, Inc.; National Telecommunications Cooperative Association; Organization for the Promotion and Advancement of Small Telecommunications Companies; and Western Telecommunications Alliance; Concurring Associations, WC Docket No. 10-90 *et. al.*, April 18, 2011 ("*RLEC Comments*").

[73] RLEC Comments, p. 64.

Based on this available "data," the RLECs claim that the existing high-cost program "should be viewed overall as an effective and efficient tool for achieving broadband availability, not as a source of waste or inefficiency."[74]

The only "data" that the RLECs provide in support of this assertion is a claim that that they have been able to "edge out" the availability of DSL-speed broadband services over the past several years, while "RLEC receipts from high-cost support have been increasing at only about 2.5 to 3 percent per year on average." But such an observation provides no real support for their conclusion; at best, this observation supports a claim that some "edging out" of broadband availability, at some speed, has occurred while the support enabling these carriers to recover some level of cost (a level of cost that may be indicative of highly efficient operations, grossly inefficient operations, or somewhere in between) has grown at a relatively modest pace.

An additional point for consideration, not mentioned by the RLECs, is the fact that the recent level of "RLEC receipts from high-cost USF support" has been sufficient to permit the recovery of costs incurred by a large number of small carriers who may be operating well below the minimum efficient size, that have at best poor incentives to control their capital and operating costs, have insufficient incentives to explore the use of alternative technologies that may offer cost savings in some locations, have few incentives to engage in the joint provisioning of network assets for which the recovery of their "actual" costs is available, have few incentives to partner with other carriers to more efficiently serve high-cost areas, and have insufficient incentives to consolidate operations with other small carriers. The fact that the total costs incurred by carriers facing these incentives have grown only modestly over the past few years offers no legi-

[74] RLEC Comments, p. 8.

timate support to a decision to perpetuate the regulatory mechanisms that create such an incentive structure.

The reality is that the RLECs can make no legitimate claim of efficiency regarding the outcome of the existing regulatory mechanism for rate-of-return carriers, because they do not know, and cannot know, how the total costs that they have incurred compare to the total costs that would have been incurred subject to market-based incentives, because no external validation of their level of costs is currently available. In essence, the RLECs are asking the Commission, the industry, and ultimately the individuals and businesses who provide the funding to accept an assurance along the lines of "trust us, $2 billion isn't that bad as long as it isn't growing too fast," and are urging the Commission to accept this wholly untested baseline of costs as the starting point for reform.

The second flawed assumption that the RLECs proffer in support of their plan is a claim that the in order to protect customers, the Commission must protect the incumbent carriers who have traditionally provided service to them by dedicating support to a fund that is available only to rate-of-return RLECs. "A separate RLEC-specific CAF mechanism is justified," they argue, because "RLECs uniquely serve as COLRs" in areas where little, if any, business case exists for investing in telecommunications facilities" absent support.[75] The RLECs have traditionally held themselves out as the only carriers willing to take on service obligations in high-cost areas, with the implication that customers in these areas can only be protected if the viability of the RLECs is guaranteed. After repeating this claim a number of times and providing various lists of COLR responsibilities, the RLECs then step on their own message by arguing (p. 71) that Sections 214 and 254 of the Act impose the same obligations on other ETCs, including the requirement to

[75] RLEC Comments, p. 27; see also pp. 55-56, 67-72.

provide service upon reasonable request to any customer within a service area and the placement of limitations on the ability of an ETC to relinquish designation and exit a given area. In the author's experience, most ETCs are required as a condition of designation to make a commitment to take on COLR responsibilities for an area if the existing COLR exits the market.

These requirements, when coupled with the Commission's proposed requirement that any carrier receiving support must first be designated as an ETC, mean that RLECs' role as self-appointed guardians of the public interest provides little support for a separate universal fund dedicated the RLECs, and to the recovery of the "actual" costs that they have incurred while operating subject to a set of incentives that is highly unlikely to yield an efficient outcome.

Having talked themselves out of the unique position that they have previously relied upon as the basis for continued special treatment and protection, the RLECs now offer the new claim that they are not only COLRs, but a form of super-COLR: "RLECs have been COLRs for most or all of their existence," and have "an excellent record over the decades of meeting their COLR obligations." As a result, RLECs "have long been, and remain, the ultimate and pre-eminent COLRs."[76] This super-COLR status, the RLECs argue, supports the establishment of an RLEC-specific fund that will ensure that the existing level of support received by RLECs will continue indefinitely. But the logic here is unsound in two respects. First, while the RLECs may have a track record that is generally positive in terms of meeting COLR obligations, there is no evidence that other ETCs cannot also be counted on to uphold similar obligations. Second, an assumption that only carriers with a decades-long track record of meeting these kinds of obligations can qualify for support from a fund set aside for those carriers simply serves to perpetuate the exist-

[76] RLEC Comments, p. 72.

ing structure of the industry and creates a scenario in which the Commission will be funding the existing number of RLECs, at their existing level of cost, into perpetuity.

Protecting RLECs as a category of carriers represents a costly (and potentially very costly) means of protecting customers. Instead, the Commission should adopt carrier-neutral reforms coupled with any requirements necessary to directly protect the interests of customers. This will provide the appropriate incentives for both incumbent carriers and any new entrants to an area.

The RLEC Plan's near-term proposals

In the near term, the RLECs propose to continue the existing rate-of-return based regulatory mechanisms, such only to two minor constraints. The first constraint limits the amount of capital investment that can be recovered going forward, and the second imposes a slight additional limitation on the recovery of corporate operations expenses.

The proposed limitation on the recovery of capital costs. The RLECs propose to "limit the recovery of prospective capital expenditures based on the ratio of accumulated depreciation to total booked investment for certain categories of investments."[77] This constraint is being proposed directly in response to the Commission's stated concerns regarding to "race to the top" incentives created by the existing capped HCLS mechanism. At a summary level, the RLEC proposal creates a "future allowable investment" (that is, a level of investment for which support can be received) equal to an "investment amount" (the amount of investment that the RLEC plans to undertake in the future), multiplied times "the ratio of accumulated investment to gross plant for local loop investments."[78]

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[77] RLEC Plan, p. 8.

[78] Appendix A: Vantage Point Proposal for Allowed Loop Plant Capital Expenditures ("*Vantage Point Proposal*"), p. 6.

When evaluating the merits of this proposal, it is first necessary to consider that it is not intended to eliminate wasteful spending and inefficiency, but rather to increase the "fairness" of the distribution of high-cost funds to RLECs: "if investment levels were constrained to the amount needed to replace the existing facilities once they reach the end of their economic life, the distribution of funds would be considerably more fair and equitable."[79] Even when considering the merits of this proposed constraint as simply an equity mechanism (setting aside for a moment any consideration of whether the proposal will provide any incentives for carriers to constrain costs to efficient levels), its merits are at best unclear for several reasons. First, the proposal rewards those RLECs who have adopted the most aggressive depreciation assumptions (all else equal, these carriers will show a higher ratio of accumulated depreciation to gross plant). Carriers who have reported higher annual capital costs in the past (through the assumption of shorter depreciation lives), and who were therefore eligible to receive a higher level of high-cost support in the past, will be the carriers who are positioned to collect a higher level of support going forward (because the proposed ratio will permit them to recover a higher percentage of their costs through high-cost support). Second, for any RLECs who have sought to game the HCLS system by engaging in excessive loop investment, the proposal will reward those carriers who have engaged in such gaming behavior for the longest period of time. RLECs who began to over-invest earlier will have received inflated support for the longest period of time, and will be eligible to receive a higher level of support going forward (their accumulated depreciation-to-gross-plant ratio will be improved by the earlier depreciation of the excessive capital costs). Finally, for RLECs who have not engaged in this kind of gaming, the proposal penalizes those who have made prudent investments to expand broadband availability when compared to carriers who

[79] Vantage Point Proposal, p. 4.

have lagged in their deployment of broadband capability. The lagging carriers, who have invested little over time, will be best positioned to receive higher support in the future, while carriers who have engaged in efforts to provide broadband capability will have a comparatively unfavorable ratio and will be eligible for a lower level of support. As a mechanism for providing the proper incentives for regulated carriers to act in a way that will lead to a more "equitable" distribution of support, the effectiveness of the RLEC proposal is at best dubious.

More importantly, the RLEC proposal offers no protection against wasteful spending and inefficiency. The proposed constraint on the amount of investment eligible for support is based on a percentage applied to a planned investment amount that is completely under the control of the RLEC. There is no external validation process to ensure that this amount of planned investment is in any way efficient, even assuming the existing size and scope of the RLEC operating on an isolated basis. In reality, the proposed limitations on the amount of recoverable investment may provide an incentive for carriers to overstate their reported amount of planned future investment.

The RLEC proposal also fails to consider any of the additional opportunities for efficiency recognized by the Commission. An RLEC would be able to recover a percentage of its future investments, regardless of whether any of these planned investments are of a minimum efficient size or whether cost savings would be available through a joint venture or the consolidation of operations. Instead, the proposal takes the inefficiency inherent in the operation of a large number of small carriers as a starting point, and imposes a light constraint that does not limit recovery to only efficiently-incurred costs and that provides a mixed set of incentives that may reward a carrier's previous bad behavior.

Even if this element of the RLEC Plan is adopted as an equity measure, it is important to recognize that it does not begin the necessary transition from the incentives of rate-of-return regulation to incentives based on market forces. As a result, it represents an ineffective near-term step toward meeting the Commission's stated objectives.

The proposed limitation on the recovery of corporate operations expense. The RLEC Plan proposes to apply a very limited constraint on the recovery of corporate operations expenses. Specifically, the plan proposes to continue to permit the recovery of these expenses through regulatory mechanisms, but would apply the cap on these expenses currently applicable only to HCLS "to ICLS and LSS as well."[80]

As an initial matter, the proposed constraint would have a negligible effect on the total amount of RLEC costs that would be recoverable through high-cost mechanisms. As the RLECs admit, even the complete elimination of corporate operations expense recovery from USF support would "cause RLECs to experience revenue losses of about 4.5 percent on average." The RLECs propose to reject the Commission's proposal to remove corporate operations costs from high-cost recovery, and instead proposed to expand the current HCLS cap to ICLS and LSS. This would result in a much smaller impact on the total amount of costs currently recoverable by RLECs.

Like other categories of costs, the RLECs' current levels of corporate operations expense have never been validated using an external benchmark. Instead, a percentage cap is applied to HCLS that limits corporate operations costs as a percentage of total eligible costs (presumably, the RLEC proposal for ICLS and LSS would work in a similar way, though they offer no details of its implementation). But without external validation, there is no way to determine whether the

[80] Vantage Point Proposal, p. 11.

cap currently applied to HCLS (and that the RLECs would apply to ICLS and LSS) is an effective means of reducing these largely discretionary costs to the levels that would be recoverable in a competitive market. Like other constraints, the effectiveness of this cap is untested and unknown.

Finally, the RLEC proposal is at odds with the Commission's stated desire to more effectively target support to the highest cost areas. Corporate operations expenses, an unknown portion of which may be related to the provisioning of telecommunications or broadband services, are incurred at a total company level. While the direct costs of providing service (whether voice or broadband service) to customers may vary significantly within a given RLEC's existing service area, the corporate operations expenses associated with those customers does not. Even if the RLECs were to be able to demonstrate that the level of corporate operations expense that they incur is 100% efficient (something that they cannot do in the absence of an external benchmark for validation), permitting the recovery of this category of expense through any future high-cost recovery mechanism would divert funds from the direct support of providing service in the highest-cost areas. Conversely, the Commission's proposal to discontinue recovery of corporate operations expenses through a high-cost mechanism would assist with the objective to target support to the areas where it is most needed.

Having proposed (1) a constraint on capital expenditures that will not affect the total amount of support distributed to RLECs (but would instead simply reallocate this support among carriers), and (2) a limited constraint on the recovery of expenses that will have a negligible impact of the total amount of expenses recovered by rate-of-return RLECs, and that will serve to direct available support away from the highest cost areas, the RLECs have declared the near-term work complete: they conclude that these two near-term proposals will effectively "constrain

the extent to which RLECs may recover capital expenditures and operating expenses for their future investments and operations from federal high-cost mechanisms."

Such a conclusion cannot be supported. The RLEC near-term proposals provide no additional constraints on the total amount of loop-related investments recovered by the RLECs and only a very slight additional constraint on the total amount of corporate operations expense to be recovered. More importantly, the RLECs' near-term proposals leave all other elements of the existing rate-of-return based regulatory regime in place. Doing so has two adverse consequences for the individuals and businesses who are the ultimate sources of this support: First, the RLEC proposal would permit the level of costs recoverable by RLECs to remain excessively high, and as a result the total size of the fund will remain higher than it otherwise would be (or alternatively, the amount of broadband deployment that could be funded with a fund of a given size would be diminished). Second, an important opportunity will have been missed to begin to transition the RLECs away from the protection of rate-of-return regulation and toward a form of market-based incentive regulation. Without such a transition process to wean RLECs from rate-of-return (and to provide the incentives necessary for them to take action to increase the efficiency of their operations), the size of the fund dedicated to RLEC cost recovery will remain high, to the detriment of both potential customers residing in currently-unserved areas and customers across the country who are the source of high-cost funding provided to the RLECs. Whatever other reform efforts the Commission ultimately elects to implement in the near term, it is vital that it begin the transition process to a more effective form of regulation for the RLECs. Further delay in taking this essential first step in meaningful regulatory reform will result in available high-cost funds continuing to be diverted from the objectives of expanding broadband availability to the largest possible number of customers, and doing so in an efficient way.

The RLEC Plan's longer-term proposals

The RLEC's describe their longer-term proposals as an "evolved RoR" funding mechanism that has been designed to been designed to demand "efficiency, accountability, and fiscal responsibility in the use of program funds." But upon closer inspection, the proposal is based on traditional rate-of-return regulation, including all of the incentives inherent in the current regulatory structure. While some additional steps have been added to the process for calculating support, there has been no "evolution" at all to the form of rate-of-return regulation being used, and no incentives (or even constraints) have been introduced that will demand efficiency, accountability, or fiscal responsibility. In reality, the RLEC longer-term proposal repeats many of the documented mistakes of the past, and is likely to result in RLEC operations that are less efficient than they are today.

The RLEC Plan consists of five steps: (1) start with today's interstate costs, (2) add support for "middle mile" facilities and access to the internet backbone, (3) recognize increasing broadband adoption levels and interstate usage of the network, (4) compute broad-band support under the CAF, and (5) recover remaining interstate costs. The problems with the first four steps of the proposed process are described below.[81]

[81] The proposed fifth step is simply a statement that the RLECs should "recover remaining interstate costs." There are no specific proposals attached to this assertion.

Step One of the RLEC proposal takes the current level of RLEC costs, incurred pursuant to the incentives inherent in rate-of-return regulation, as a presumptively valid starting point.

Rather than take advantage of this opportunity to propose a transition from existing regulation to a form of regulation based on market-driven incentives,[82] the RLECs have proposed to continue rate-of-return regulation − with all of its documented flaws − into perpetuity. The first step of the RLEC Plan is to calculate, using existing Part 32, 36, 64, and 69 rules, "current regulated interstate costs."[83]

As a result, the RLEC Plan would have customers across the country continue to provide, over the long term, a level of support that will enable the RLECs to recover "actual" costs that are inflated for a number of well-documented reasons. The RLECs' "current regulated interstate costs" are a function of the following: insufficient incentives to make only efficient investments or to control expenses at the carrier's current small size; insufficient incentives for the carrier to attempt to realize scale or scope economies (and therefore greater efficiency and lower cost) through cooperative operation and joint ventures or through consolidation with other carriers; and insufficient incentives to transition to new technologies or to a combination of technologies. By allowing the recovery of these costs, the existing regulatory regime encourages RLECs to

[82] As explained in Section II of this paper, in an industry otherwise characterized by significant change and rapid advances in technology, attempts to artificially protect the RLECs through the application of rate-of-return regulation may allow these carriers to continue to live in the past for some period of time, but will do so at a cost to customers and ultimately to the regulated carriers themselves. Without a transition to market-based incentives, the protected carrier's management team will have no incentives to explore new technology options, explore opportunities to engage in joint ventures or consolidation, explore opportunities to develop new customer markets, or to develop long-term strategies to ensure that the carrier remains relevant in an evolving marketplace. With ongoing regulatory protection, management may even engage in an irrational attempt to hold on to the firm's traditional business plan while experiencing an ongoing and steady loss of customers for the services that it has traditionally provided. By beginning with a calculation of "actual" costs pursuant to existing rate-of-return-based regulations, the RLEC Plan encourages continued movement down the wrong path for these carriers.

continue to view themselves − and to operate − as regulation-protected, small, wireline carriers who will continue to operate as regulation-protected, small, wireline carriers through the foreseeable future. *Any path toward the elimination of wasteful spending and inefficiency must begin with a different first step.*

Step Two of the RLEC proposal creates *disincentives* for RLECs to efficiently construct middle-mile and internet backbone facilities.

The second element of the RLEC Plan is a proposal to make additional categories of network facilities eligible for support, including "middle mile" transport facilities and facilities between the RLEC's network and "internet backbone" facilities: "those RLECs who elect to treat their middle mile costs a part of their regulated rate base" would be "entitled to recover the costs associated with middle mile transport."

As an initial matter, the RLECs' choice of the word "entitled" in this context provides a glimpse into the world-view that is created and perpetuated by the ongoing application of rate-of-return regulation. Carriers without rate-of-return protection (including, notably, other ETCs) are not "entitled" to recover any network investments that they make, but instead face incentives to ensure that any investments that they make are efficient. The traditional justification for a recovery entitlement for rate-of-return carriers is that all of the investments made by these carriers are investments that would not have otherwise been made (because no business case could otherwise be made to serve a given area).

But the RLECs have offered no evidence that "middle mile" facilities or facilities "between rural areas and internet backbone facilities" fall into this "no business case" category. In direct contrast to "last mile" facilities that are dedicated to individual customer locations, "mid-

[83] RLEC Comments, p. 29.

dle mile" and "backbone" facilities are transport facilities used to aggregate traffic from multiple locations (and potentially from multiple RLECs or other broadband service providers). It is possible that a business case can be made for the construction of these facilities without support, particularly if the facilities are efficiently sized to accommodate broadband traffic from multiple study areas and multiple carriers.

By ensuring the recovery of "middle mile" and "backbone connection" facilities at the level of each individual RLEC, this proposal begins the process of duplicating a significant source of efficiency in the existing regulatory regime that has inflated the costs incurred by RLECs and has imposed a greater burden than necessary on those who must contribute to the fund. As described in Section IV above (and recognized by the Commission in the NPRM), existing regulations permit smaller ILECs to recover the costs of purchasing one or more small circuit switches, even though such switches are not easily scaled to the size of the carrier and result in significantly higher costs when deployed in configurations to serve a small number of customers. The incentive structure created by these regulations has resulted in the deployment of a very large number of very small (yet expensive) circuit switches, with each ILEC owning and operating switches that are inefficiently scaled for its own isolated operations, even though a smaller number of larger switches could have been used to serve the same total group of customers at a much lower cost. Allowing each individual ILEC to recover its "actual" costs of local switching, even though these costs were inflated by the small size of each carrier's switches, eliminated incentives for these carriers to engage in cooperative efforts over time to consolidate switching functions and develop a more efficient overall switching solution for the collection of areas that they serve.

Circuit switches represent a network asset whose unit costs decline significantly at larger volumes, and do so over a wide range of volumes of demand. They also represent assets that could have been shared by multiple carriers if the proper incentives had been in place (or if the existing disincentives had been eliminated). The combination of economies of scale and the potential for sharing yields an opportunity to reduce the total costs of providing this network function, and its corresponding impact on the size of the fund.

The transport facilities used to provide "middle mile" and "connection to internet backbone" functions offer a similar opportunity for cost savings, if – but only if – the proper incentives are in place. Particularly in rural areas, it is likely that multiple carriers will have both a need and an opportunity to utilize the same existing corridors (roadway and railroad rights of way, for example) to deploy these transport facilities. At this relatively early stage of broadband adoption in rural areas, it is likely that multiple carriers will have a need to for additional capacity provided by these facilities.[84] Cooperative development of "middle mile" and "connection to internet backbone" facilities (whether deployed on a point to point or fiber ring architecture) can accelerate the availability of broadband services to new areas and at higher speeds, while reducing the total cost necessary to deploy the needed capacity. Cooperative development could come in the form of a joint venture, the deployment of high-capacity facilities by a carrier who then leases capacity to others, or by other arrangements worked out by the carriers. But this opportunity for accelerated deployment and reduced costs can only be realized if the proper incentives are present, and particularly if RLECs *do not* have the incentive to deploy their own facilities, for their own isolated use, at a smaller scale that results in higher costs. The proposal that each indi-

[84] Because they have made the inclusion of these additional facilities a centerpiece of their longer-term reform proposal, it is safe to assume that the RLECs likewise expect a need for significant additional investments in "middle mile" and "connection to internet backbone" facilities.

vidual RLEC be "entitled to recover the costs associated with middle mile transport" would create such an incentive for each carrier to inefficiently construct its own facilities, and would create disincentives for carriers to act cooperatively in a way that would have clear public policy benefits.

Step Three of the RLEC proposal creates an incentive for RLECs to set retail rates for broadband services that are artificially low.

The third step of the RLEC Plan is to transition a number of loop-related investments to the interstate jurisdiction based on the "ratio of each RLEC's customers who adopt broadband services to those who only utilize voice services."[85] The benefit of this proposal, according to the RLECs, is that it will "create substantial incentives for RLECs to encourage broadband adoption among customers."

An observation that the RLEC Proposal will "create substantial incentives for RLECs to encourage broadband adoption" − and therefore to transition an increasing percentage of their loop-related costs to the interstate jurisdiction − is a valid one. While encouraging the promotion of broadband services, and encouraging that these services to be offered at affordable rates, are worthy objectives, the RLEC Plan lacks any check on the incentives that it creates. As proposed, the RLEC Plan would "create substantial incentives" for the RLECs to offer broadband services at very low prices in order to accelerate the adoption of these services, the resulting transition of costs to the interstate jurisdiction, and the subsequent increase in support.

As noted by the Commission in the NPRM, the existing regulatory regime has created the incentive for some RLECs to price voice services at a very low level, and to make up the cost

[85] RLEC Comments, p. 32.

recovery through USF support. The RLEC Proposal would create a similar incentive for the pricing of broadband services. While these services should be affordable, collecting too little from the customers who use the service, and making up the difference through support provided by customers across the country, is at odds with the Commission's stated objectives in this proceeding.

Step Four of the RLEC Proposal (the application of the "urban benchmark") does not assure that only efficient costs are recovered, and may provide an incentive for RLECs to further over-invest.

The fourth step of the RLEC Proposal is to calculate an amount of support by beginning with an RLEC's total costs (incurred pursuant to the incentives inherent in rate of return regulation, and with the additional "middle mile" and "access to internet backbone" costs added), and to subtract an "urban benchmark" that represents "the costs of providing reasonably comparable wholesale broadband transmission services in urban areas."[86] The result of this process, the RLECs argue, will be an assurance that "support is directed to high-cost areas."[87]

The reality is that the RLEC Proposal will indeed serve to direct support: not to high-cost areas, but to areas with the highest reported level of costs. Calculating support based on the differential between a given RLEC's reported costs and a benchmark level provides no assurance that the reported level of costs is reflective of efficient operation, or that it accurately reflects geographic differences in the costs to provide broadband services. If the Commission establishes an RLEC specific fund subject to a cap, the RLEC Proposal creates a new "race to the top" and provides incentives for RLECs to overstate costs. What is needed is not a benchmark of the

[86] RLEC Comments, p. 33.

costs incurred to provide services in urban or other areas (with an opportunity for carriers to receive support in excess of this amount), but an external validation, based on market-based incentives, of the costs incurred by RLECs to serve existing areas (and the limitation of support to the amount necessary to recover these externally validated costs).

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[87] RLEC Comments, p. 34.